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The self-actualising educand

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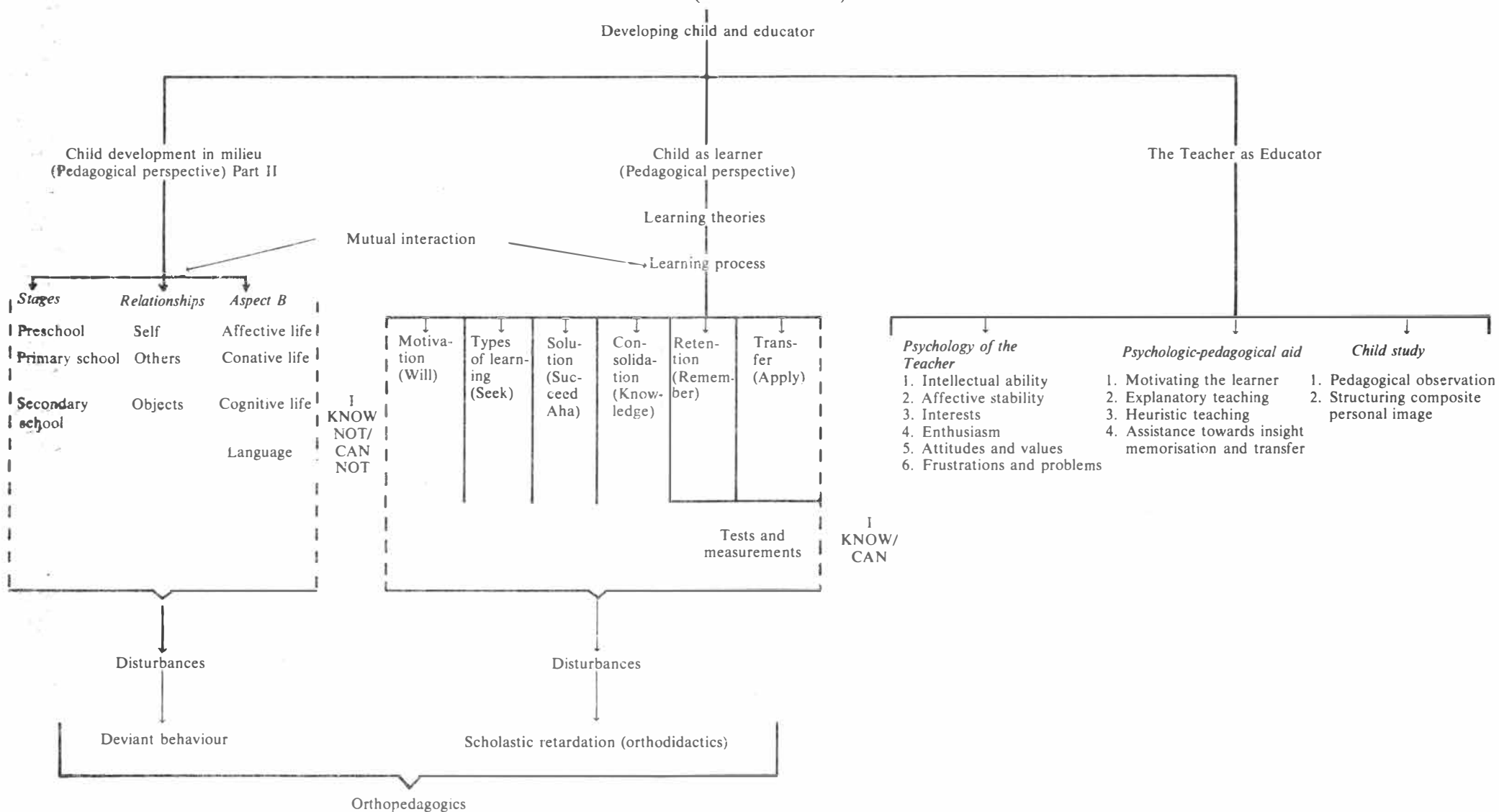
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GENERAL EMPIRICAL EDUCATION

FACTS IN THE PHENOMENON OF EDUCATION KNOWN BY EXPERIENCE (EMPIRICAL)



Preface

In pedagogics we study the realities of the educational situation as embodied in the relationship between educator and educand. In EMPIRICAL EDUCATION, also known by other names such as psychopedagogics, educational psychology etc., the participants themselves are studied.

As the title of the book indicates, the child as an educand is the sole focus of study – more specifically in his involvement with educational assistance – in self-actualisation. Empirical education studies the actual child as he empirically exists. In dealing with the child's development from his pre-school, primary and secondary school days to his post-school youth period, this process has to be 'frozen' in order to focus on the actual child or group of children.

We are studying the developing, learning child. Development and learning cannot be separated, but we do make a distinction. In this book we shall be concentrating on the child, and we shall be looking at typical developmental stages. The phases in the learning process will be distinguished: The phenomenon of a child's wish to learn, and the types of methods of learning will be followed by the other steps in the learning process up to learning success. We shall confine ourselves to essentials, never losing sight of the child. For instance, we shall try never to separate a psychological phenomenon such as 'anxiety' from 'a child experiencing anxiety'. The actual, empirical child remains the focal point, and he is explicitly described; the educator and the educational relationship – all educational events, in fact – are present by implication. All self-actualisation is guided actualisation, and every child is what he is largely because of the educational assistance he either received or lacked.

We start with a few important aspects of a theoretical structure for our subject. The first chapter must be thoroughly understood before the rest can be attempted.

Theoretical basis of Empirical Education

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CHAPTER 1

Theoretical basis of Empirical Education

1.1 INTRODUCTION

Education is a universal phenomenon. It is found among people of all cultures. The adult educates the child for whom he is responsible in order that the child may become a worthy participant in his particular society. This activity in which the adult helps the child, supports and accompanies him, is called the education phenomenon.

The education phenomenon manifests itself as an event that *takes place among people, and among people only*. As a result of this stance *the possibility of directly applying the results of experiments with animals to some or other aspect of education is immediately excluded*. The phenomenon of education can only exist where there is already some association between an adult and a child. Since this association is a prerequisite for education, it follows that not all association between adults and children, or between teachers and children imply education. To quote Van Praag (1950, p. 2): "He who educates continually, does not educate at all." There is much free and spontaneous association among parents and children that is not education. This *association* may turn to education as soon as the situation demands (Gunter 1964, p. 4). Therefore we must agree with Langeveld (1957, p. 27) when he says that togetherness is the "pedagogic pre-formed ground". As soon as an educational act has taken place, the educational relationship once again turns into a relationship of pedagogic togetherness. The education phenomenon is vested in an associational relationship. To a great extent the relationship of togetherness is characterised by self-realisation rather than educational support.

It must also be stressed that not all influence exerted by an adult on a child is education. Educational action is aimed at exercising a positive influence on the child, at developing his responsibility, at assisting him in equipping himself for the proper and independent execution of his

task (Gunter). To teach a child to steal or to keep him dependent on his parents is to influence him, but it is no education.

For the genesis and course of the educational phenomenon there must be an *encounter* between educator and educand. The mentally and morally independent adult feels himself attracted to the dependent child in need of help and accepts responsibility for his becoming independent. The encounter between educator and educand takes place in a concrete situation where person meets person. The child needs help and guidance even though he cannot consciously determine the nature of it. The educator who knows the child and studies his actions, can interpret the child's behaviour and *render the assistance needed*. This means that, to a great extent, the adult is responsible for what happens to the child. The adult can therefore be taken to task; for he plays a major role in the mental maturation of the child. This responsibility results in the adult's *wanting to make himself redundant*. As the child grows older, *he will withhold his support more and more*. It can also be said that the educator's responsible accompanying of the child exists by virtue of withholding help where the child is *capable of helping himself*. Two persons can therefore be identified in the educational phenomenon. These two persons are of cardinal importance to Empirical Education.

Like the educator, *the child is also a person*. It is he who has to grow, mature and reach self-realisation. Educational help is offered judiciously, but the child has to accept it in order to come to *self-actualisation*. The tendency towards self-maintenance in the child – as in all other living creatures – is unmistakably present. *Self-maintenance also includes self-actualisation and self-enhancement*. It is a common phenomenon that the child moves in the direction of greater independence and responsibility. The small child wishes to eat by himself, walk by himself, put his clothes on by himself; be able to read by himself, etc.

Rogers (1965, p. 490) describes how he reached the following conclusion by means of clinical experimentation: "I find that the urge for a greater degree of independence, the desire for a self-determined integration, the tendency to strive, even through much pain, toward a socialized maturity, is as strong as – no, stronger than – the desire for comfortable dependence, the need to rely upon external authority for assurance . . . when all the elements are clearly perceived the balance seems invariably in the direction of the painful but ultimately rewarding path of self-actualization . . ." *This desire towards independence is inherent to man*. It is stronger than the mishaps, pain and humiliation the child may sometimes experience. Without this it would not be possible for the blind child to learn to read Braille, for the deaf child to learn to speak or for the motor handicapped child to learn to use an electric typewriter. *The maturation of the child is realised through the constant interaction be-*

tween educational help and independent self-determination; the former is gradually diminished and the latter gradually increased.

Education is the science which has as its field of knowledge the scientific investigation and reflection concerning the educational phenomenon and the problems it poses (Gunter). Owing to the scope and versatility of problems related to the educational phenomenon, there are various pedagogic disciplines, each focussing on one facet of the phenomenon. Attention will be given to Empirical Education without considering the aims of the other disciplines.

1.2 EMPIRICAL EDUCATION

1.2.1 Introduction

Like the other disciplines, Empirical Education is founded on the education phenomenon. Empirical Education is primarily concerned with *who* the participants in the educational situation are: educator and educand. Secondly, it is concerned with the *what* of the persons involved. This discipline aims at describing *facts* concerning the adult as educator and *the child as educand*. It is concerned with the *perceptible, descriptive, experimental* and the *measurable*. It is a body of facts; the study of a reality that is, i.e. the developing child as a person with inherent needs, possibilities and limitations in a specific historically-formed cultural milieu: a world in which he lives, where he continually finds himself in concrete situations of life. Apart from the facts concerning child development with educational aid, the facts concerning the educator as helper and companion of the child are also studied in Empirical Education.

In this book attention is focussed on the child in the educational situation. Reference to the educator will only be made in passing. This topic will be discussed later.

The facts concerning the child, collected by means of empirical methods, must be structured on the grounds of pedagogical categories. There can be no arbitrary, unsystematised collection of facts. The *guiding principle* comprises significance attribution, involvement, experience, self-concept and self-actualisation. These will be discussed at length later on. By way of an example it may be mentioned that the empirical fact that a three-year-old knows a certain number of words is pedagogically of little value. The meaning of these words to him is, however, highly significant for his becoming.

When studying a child, the culture into which he was born is of initial importance. The home, furniture, clothes, toys, care and education are all *culturally determined*. All these factors will necessarily influence the

child. Each culture makes its own demands with respect to the standards of conduct that the maturing child will have to meet. Whiting (1963) distinguishes the following aspects: educational help, feeding, confidence, self-control, aggression, responsibility, obedience, joviality and achievement. As a result of these and other factors that all have direct educational implications it is for instance not possible to apply a standardised intelligence test, designed for European children, to Sotho children and to compare the results. Even within a given culture there are sub-cultural emphases that have differing effects upon the education of the child. Because of cultural differences, sub-cultural emphases and particular practices, sociopedagogic enquiry is necessary into the possible effects these factors may have on the education of the child. The relation between the quality of family life and growing affluence, or the relation between the quality of family life and the working mother could, for example, be studied empirically. This example stresses the fact that child studies are always studies of *children in a particular environment*.

When studying *the child*, albeit *a particular child*, *a group of ten-year-olds* or the developmental features of *primary school children*, we always encounter certain *aspects* of a more psycho-pedagogical nature. It is possible to investigate the mental, affective, linguistic and volitional features of a child but these features can only be observed in actual situations where the child knows, feels, communicates and wills something. *Since the child cannot be observed in a vacuum, we always see him in his relationship to himself, to others, to things and to his God*. For example: A child's acceptance by his peers may enhance his self-esteem which, in turn, may affect his interest and diligence for schoolwork positively or adversely, depending on the attitude of the peer group towards academic achievement.

The pre-school child continually tries to understand his immediate environment. He handles, manipulates, takes apart and asks: "Why?" As he discovers and *assigns meaning he improves his orientation in his life-world*. Assigning meaning is not entirely a cognitive process. Manipulation and effective experience (e.g. fear of a dog or intense enjoyment at a swimming pool) may add to the quality of meaning and thus to the orientation towards dogs and swimming pools. By assigning meaning or attributing significance the child establishes a relation between himself and the person, animal or object. These relations, and especially the quality of these relations are indicative of what the child has assigned meaning to on his way to adulthood.

The child is continually trying to understand the things in his environment or to assign meaning to them. Thus he orientates himself towards people, things and ideas and learns how to act towards them. This is in-

dispensable for his maturation. Through the assignment of meaning he learns and orientates himself. He learns throughout life and while he is learning, he is maturing and becoming independent. He learns how to walk and talk, how to throw a ball, how to do arithmetic and write essays, etc. Man learns his way through life. *He learns while maturing and matures while learning.* Learning is not a long, slow, tedious struggle. Steep rises and plateaus are found intermittently. The peak of such a rise constitutes *the successful mastery of a developmental task.* Between the ages of five and ten, for instance, the child laboriously *learns to write.* Once this skill is mastered, it becomes an automatism. Attention is then given to the content of the writing. The child also learns the attitudes and behaviour that are valued in the particular culture. Growing up and learning are inherent to humanity. *These two basic tasks (growing up and learning) do not develop independently or parallel to one another. They interact and are always mutually dependent on one another.*

Although the phenomenon of learning cannot be separated from development (or becoming), it can be distinguished and described. The phenomenon of learning is demarcated by the following boundaries: *I know not or I cannot and I know or I can.* All conscious, purposeful learning takes place between these poles. Such learning takes place in a particular manner and various stages or steps can be distinguished. *Because these steps follow a logical sequence, we speak of the learning process.*

The learning process

The following steps can be distinguished:

- (a) In this course we emphasise conscious, deliberate learning, which never occurs if the learner does not wish to learn. The first step is therefore *the will to learn*; sometimes called *motivation*.
- (b) In his involvement in a specific learning task, this *will* must be directed in a particular manner. The second step is therefore the method, the manner, or *type of learning*.
- (c) The learner must experience success. *Insight* must be obtained and the learner must experience the correctness of his attempt.
- (d) This initial solution must be *reinforced* by repetition, use or application. Whatever the case, this fourth step is characterised by the establishment of the solution.
- (e) The internalised, assimilated knowledge must be remembered. It should be possible to *recall* or to *actualise* this knowledge.
- (f) Besides being able to reproduce assimilated knowledge, the learner should also be able to use this knowledge in new related situations: *transfer* must take place.

These steps are either explicitly or implicitly present in all conscious, deliberate acts of learning.

It may be that a learner may not be particularly aware of a certain step, but it is possible for the empirical educationist, who observes from a distance, to discern the various steps in the set of events known as the learning process.

At each step in the learning process the learner may encounter problems and obstacles. The obstacles may result from developmental hindrances or from didactic hindrances. The learner may then be referred to the orthodidactic educationist or the pediatrician or the orthopedagogue.

In Empirical Education relevant empirical events are seen in a pedagogical perspective. The empirical educationist takes a pedagogical view of the concrete empirical reality as represented by the growing child engaged in self-actualisation. It is true that education is the anthropological or authentically human involvement of an adult with a child, but it must always be more rather than less empirical. Its concern is with the child in totality who builds up his own life-world within the framework of his abilities, limitations and expectations which exist in his situation and culture. This life-world can only be realised with educational assistance. We come to understand the child as he gives proof of competence in attributing meaning (by showing a fair understanding of mathematics or some other subject). He is seen as someone who possesses innate ability and who manages to attribute meaning because he has assimilated effective exposition and guidance by a teacher. But even with the necessary ability a child may not succeed because the explanations and guidance he needed were not forthcoming and perhaps because he has internalised constant accusations of 'you are stupid' and has come to believe them. *Our focus is always empirical, that is on the real specific child in his life-world.* His constituting of a meaningful life-world, essential to his self-actualisation, depends upon his internalisation of educational assistance. As the empirical and the educational components of our view can never be separated, we retain an empirical-educational perspective on the phenomenon of education.

1.2.2 Presuppositions of Empirical Education

1.2.2.1 Basic orientational questions

Like the other pedagogical disciplines, empirical pedagogics focuses on the educational phenomenon and specifically on the participants in the

educational act. The participants in this act are child and adult – more specifically, in the pedagogical context, educand and educator. In this situation all the implied pedagogical essences are taken for granted. The educand is seen as an embodiment of educational involvement. Empirical pedagogics is built around the following basic questions, which give meaning to the whole scientific endeavour:

HOW DOES THE EDUCAND BECOME AN ADULT?

and WHAT IS THE ADULT'S ROLE AS AN EDUCATOR?

Seen from the pedagogical perspective, the child will clearly not become the complete adult he is meant to be unless he receives effective help and support from an adult whom he values and who accepts responsibility for him. Only on this basis can the child be an educand and the adult an educator.

This book concerns the educand and to a lesser extent the educator. We shall try to answer the first question, even if we can answer it only in part. To place it in context, we must take a closer look at the concepts of which it is made up. In a later chapter attention will be given to the educator.

- (a) *Adult*: People are considered adult when they have reached a certain chronological age. Since the human race is time-bound, biological growth to maturity is inevitable. But our concern here is with the quality of this maturity – shown in moral acceptance of various norms, the willingness to take responsibility for one's choices and to live by them. We need not go into this concept of adulthood in detail. The child who strains toward maturity is always motivated by a specific achievement, either physical or mental, which is valued by his community. These components of being grownup are perceived by the child as essential to him for his becoming in the specific culture. A specific achievement – whether feeding himself, reading, solving a mathematical problem single-handed or driving a car – is the educand's symbol of maturity at that instant. Maturity is not reached at a specific age or academic level. Growth towards maturity is glimpsed in developmental or independent tasks which in themselves are mere indications that the educand is in fact on his way to overall, but never final, maturity.
- (b) *Educand*: The educand is a child and also a person. The vital aspects of being an educand are discussed later.
- (c) *Becoming*: We must be clear at this stage as to what we mean by 'become', or 'becoming'. Unless we are, we cannot distinguish effectively between becoming and development.

'*Become/becoming*' means to come to be something or in some

state (Oxford). Becoming presupposes a purposeful action. All becoming is thus purposeful. In an educational sense becoming refers to the transition towards adulthood.

Becoming can also signify to come into being (Oxford). There is no implication that prior to a given moment a child was something totally different. He is a child, a person, in the fullest sense of the word. Becoming refers to his progress towards unfolding adulthood. It is not a natural, inevitable process like biological growth under favourable conditions; the purpose of becoming is complex, comprehensive and never completely defined. Hence, when we talk about becoming, we assume that the educand is a person with strivings, longings and aspirations, psychological vitality, initiative, will, decisiveness and purpose – it thus implies his intentionality. The term becoming refers to the total involvement of an individual purposefully moving towards adulthood. Becoming is always purposeful. In this case the purpose is contained in the ever receding, ever more complex relationships existing in the unfolding life world. Becoming is the incentive when the child insists *on feeding himself, walking or reading by himself*, or whatever at that stage symbolises adulthood for him. In this becoming the educand needs educational help. The specific norm of adulthood must be exemplified or explained. The child needs encouragement and support if he is to choose the best way to make effective progress towards adulthood.

- (d) *Development* may be described as gradual unfolding; a fuller working out of the details of anything; the developed result or product (Oxford). It therefore refers to a gradual process of taking shape or *a gradual, perceptible improvement*.

As a complement to becoming, where an individual progresses towards the specific objective namely adulthood, development refers to the empirical manifestations of becoming. The emphasis is on recognising the degrees of improvement on the way to a specific objective. For instant, 'linguistic development' refers to an improvement in vocabulary and the functional use of language that can be perceived according to specific standards. In the same way we can speak of thought development or of cognitive or affective development – or, for that matter, the development of muscular co-ordination and physical skills. Development, then, indicates the empirical manifestations of the independence tasks as mile-stones on the road towards the realisation of the goals of becoming.

In the pedagogical context, becoming and development are inseparable. The empirical educationist is particularly concerned with the developmental manifestations of the child in the process of becoming.

This tells us that becoming and development are not synonyms but closely related concepts. The empirical educationist takes a lively interest in developmental tasks, because these indicate that the child is making progress towards adulthood. This progress is shown by his development, i.e. the improvement in his physical and psychological abilities.

- (e) *How*: Empirical education is vitally concerned with the question of *how*, in other words with the totality of differential aspects of becoming and development. This question cannot be tackled as a whole. The relevant data concerning the educand's self-actualisation, in so far as it is a guided process, are purposefully collected and structured, so that the reply to our basic question ('how does the educand become an adult') is presented as a structured and integrated Gestalt - the subject empirical education. This structure is dynamic. It changes and develops: the discipline never reaches completion.

1.2.2.2 *The educand*

A child is a human being, a person. He is born weak, unable to help himself, but he has a great deal of potential for maturity. To mature in a specific culture, the child needs to be educated. He is born with a wide range of hereditary characteristics that link him to his ancestry, mainly in biological ways: genetically determined characteristics like build and hair, skin and eye colour. Even these physical factors are, however, influenced by the culture in which the child matures.

The child as a person is isolated within his own identity from all other entities. Each individual is unique; he cannot assume or appropriate another self. His welfare therefore depends on his acceptance of his own uniqueness (May, R, 1967, pp. 57, 61). As the years go by, the child changes and matures. There is a vast difference between the child of five and the adult of thirty-five, and yet he remains aware of himself as the same *I*, sure of his *own identity*. He remains the same person, even if he should lose some of his faculties, like Helen Keller, or be maimed in an accident. He cannot be or become anything else. He is a person - a subject, an existential self that corresponds to the unique individual, the 'really me' (Tiryakian in Gordon & Gergen, 1968, p. 77), which is only conceivable if other persons or subjects exist. As Gordon says (1968, p. 115), '... the very genesis of the self is to be found in the process of communicative interaction'. *Only in a human community can the child become the human adult he is destined to be*. On his own he cannot actualise his potential so as to become an independent, responsible, decent person capable of living a worthwhile life as human being (Gunter 1969,

p. 80). For this reason he needs and longs for help, support, teaching, control and guidance from an adult. Oberholzer (1968, p. 48) calls this *the existential need for an adult*. The educator and more particularly the parent should help, guide and teach the child with sincere affection so that he can mature as he should.

The child is born into a world of people and objects in which he *must orient* himself by attributing meaning. Binswanger speaks of an 'Umwelt', the environment, a world of objects to which we must physically orient ourselves and in which we must act. He also distinguishes a 'Mitwelt', the world of interpersonal relations; and finally an 'Eigenwelt' or own world – the world of one's relationship with self. In his progress towards maturity the child will initiate relations (Buitendijk) and *form relationships* with the objects in his *Umwelt*, with the important (to him) people in his *Mitwelt* and with himself, thereby establishing an *Eigenwelt*, also called a *self-concept*. In the process he constructs a life-world as the Gestalt of meaningful relationships with people, objects and ideas and with himself. The child can get to know his own self or identity and also other people and objects because he is consciousness. *Consciousness* presupposes awareness of objects, other selves and his own self by means of all the ideas, concepts and imaginings that can be distinguished as media of thought. These states of being aware of something, thinking of something, desiring or appreciating something, etc., are defined by the concept intentionality (Meyer 1967, p. 38). Consciousness is only consciousness when it directs itself to an object. It is not a passive orientation. *Intentionality* concerns the directedness, purposiveness, intentional tendency of the consciousness on the object of its attention by which essential qualities are assigned so that the object can be understood by synthesis (Meyer 1967, p. 41). This *involvement* of the subject means *to understand*. Being aware of the object of my understanding at all times comprises more than the data. What I hear is not just a sound but *something to which I have attributed meaning*, e.g. a clock that strikes, a passing Volkswagen or Mirage jet. The purpose of my involvement is to understand the object to which my consciousness is directed. May (1975, pp. 223, 225) calls intentionality the structure that gives meaning to our experience and enables us to understand our surroundings; but he also speaks of it as 'a dimension which cuts across and includes both conscious and unconscious, both cognition and conation'.

In this connection we agree with Frankl, who sees the spirit as the central zone of both the conscious and the unconscious. The spiritual and the physical are not two distinct layers of consciousness. There is also a spiritual unconscious which can, in logotherapy, be made conscious (Ghysbrecht 1971, p. 132). *The spiritual aspect of a human being – the unconscious as well as the conscious – is always directed towards the*

meaning of life. This spiritual dimension can also be called the 'I' which, according to Jung (Edinger 1972, p. 3) is the energy source and therefore the centre of organisation of all psychological activity. In the phrase of Kuypers (1963, p. 257), the I lies hidden behind all phenomena, but its rays penetrate all the domains of the psychological. Conscious activities such as observation, thinking and feeling are, according to Kuypers, concentrated in this I. The I can be described as the individual's spiritual dimension, which exists only in so far as it is integrated with other dimensions of personality (Vrey 1974, p. 60). If this is so – that the I is a spiritual entity which can never, as such, be made into an object and known – *then the 'self' is the person as he knows himself.* There is some question here of a psychophysiological entity that can be seen as an object; of awareness, as the self's awareness of the body, thoughts, feelings, emotions, ideals – of everything one can speak of as one's own. While the self is the object of awareness, an interaction takes place between the I and the self in the incarnation whereby the I is at one with the stream of consciousness. Because of this interaction we can accept that the self as a self is also a subject, since it is the core of the personality and the initiator of various constellations of actions and functions of consciousness (Vrey 1974, p. 67). *The individual's self is the Gestalt of what he can call his own. It includes his system of ideas, attitudes, values and whatever he commits himself to.* The self is the individual's total subjective environment, the centre of experience and of meaning (Vrey 1974, p. 78).

When the consciousness is directed to one's self, one gets to know that self and to form a concept or image of one's body and of one's psychological activities. This understanding of my self or my own identity always includes evaluation on the basis of subjective norms, and gives rise to my *self-concept* which can be described as that configuration of convictions concerning myself and attitudes toward myself that is dynamic and of which I normally am aware or can become aware (Vrey 1974, p. 95).

One becomes strongly aware of a child's progress, achieved with educational help, when one considers how he grows physically, solves progressively more difficult cognitive problems and achieves increasing control of his emotions. We speak of this progress as *self-actualisation* or self-realisation. This self-actualisation is not to be seen as the natural realisation of potential achieved by the individual in isolation. May (Reeves 1977, p. 34) decisively rejects this, and we agree: 'May rejects the reductionist efficient causality and determinism of Freud and the rationalistic faith of Adler and Rousseau that man, if unobstructed, will grow naturally toward a state of perfection.' It is in the company of other people (important to him) that the person/child creates and discovers meaning. 'In itself, then, the goal of self-realisation depends both

on a strong individuality and on a mature responsibility to one's world' (Reeves 1977, p. 33). This requires an *integrated interaction between 'individuation and participation'*. It takes conscious effort to live decently with other people. According to Bollnow, Van Zyl (1967, p. 75) points out that the support needed to overcome self-doubt and loneliness and to find oneself 'ist der lebendige andre Mensch, ist das Du, das ihm menschlich nahetretende brüderliche Du'. The basic Ich-Du attitude (Buber) remains, and in education it is vital to see that *the child can actualise himself only with educational help*.

It is a fairly general scientific principle that complex phenomena are explained in terms of simpler ones that are relevant. In a human being it works the other way round. I as a person am hungry or tired, or I long for a mate; I express my needs and longings within a given structure of norms. This helps us to understand the child who actualises himself by attributing meaning, and we agree with May (Reeves 1977, p. 27) that *'the simple is to be understood in terms of the complex'*. *Meaning is assigned to simple facts on the basis of his intentionality, self-concept and hierarchy of values*. This applies to his instincts, his vocabulary at the age of three, his motor clumsiness during puberty, his class position, laziness, aberrated behaviour – every single empirical fact is grasped in terms of the dynamic interrelations by which the child seeks to orient, assert and realise himself and to be accepted by others. Our accumulation of empirical facts about the actual child as an educand is determined by such anthropological properties as these: the child is a person, has potential, he is progressively and responsibly actualising himself with educational help.

Some of these aspects call for closer study: concepts such as self-actualisation, life-world, relationships, perception and self-identity.

1.2.2.3 *The child in his life-world*

The child exists not so much in a geographical world as in what we might call his life-world. This includes everything – also the geographical world in which he is involved or which he understands. Attribution of meaning is based on the totality of an individual's experience. Such meaning is not only cognitive but also affective and conative and includes both experience and expectation. It is always the person in his totality who assigns meaning.

An individual's life-world can be represented as a network of relationships with objects, people, ideas, himself, etc. These are often interdependent and interactive, so that the person's relationships are dynamic: the nature and horizons of his life-world are never static. *This Gestalt of meaningful relationships makes up the individual life-world*. Each observa-

tion of a child must, both quantitatively and qualitatively, be interpreted within the framework – and against the background – of his life-world. The idea of factual objectivity in relation to a child is sterile and meaningless unless it is related to the child's life-world (Frank, 1939).

We must differentiate between reality, world and life-world. *Reality* comprises the entire cosmos. The Christian defines it as the whole of the reality or cosmos created by God. *World* is that part of reality to which people, through their involvement with it, have come to attribute meaning. It includes both nature and man-made culture. The child is born into a *world*. Its meanings have been assigned by people. To the child, these meanings are as yet hidden.

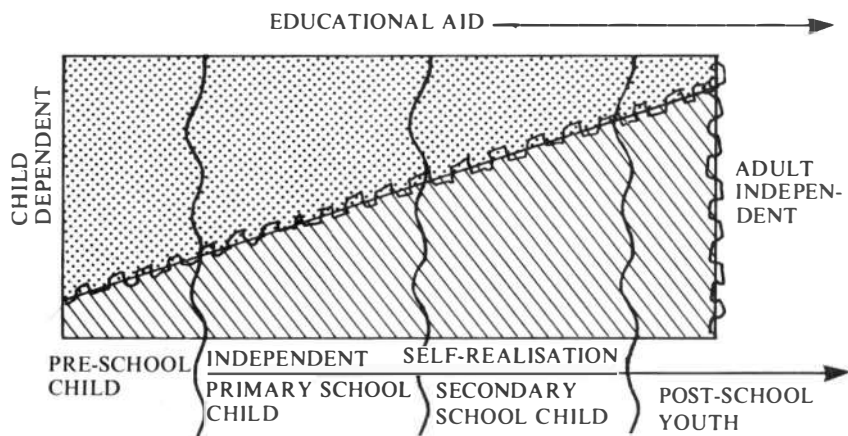
Life-world is the Gestalt of the individual person's meaningful relationships. One's life-world includes all the people, objects, ideas, systems, forces, attitudes, self – everything to which one has attributed meaning and which one therefore understands.

A life-world is not conceivable apart from a person, since it is the totality of meanings discovered or assigned by a person. No two people (not even twins) can have the same life-world. In the same way, a child without a life-world is inconceivable. The empirical educationist is concerned with an educand who is always constituting a life-world by his involvements, attributions of meaning and experiences. To constitute this life-world he uses his genetic potential, instincts, passions, psychological abilities, etc., in a particular cultural world, his norms and values being aligned with his ideals and expectations, all constituted as one dynamic, interacting whole in which he is involved and to which he assigns meaning.

1.2.2.4 The relation between educational aid and independent self-realisation

It has already been emphasised that the child is a person. He is the initiator of relations with all things to which he assigns meaning. He has to assign meaning to and orientate himself towards people, things, concepts, values, attitudes, etc. The child wants to be grown up; he wants to do things on his own: eat, walk, dress, write, etc. – often long before his psycho-motor development makes this possible. We see the child *engaged in self-actualisation*.

However, he cannot do everything alone. He needs the support, guidance, care and help of the adult in order to become what he ought to become. The mutual dependence and interaction can be illustrated by means of the following diagram.



The child is dependent upon his parents and other educators. The nature of educational aid is such that the child becomes less dependent and acts more independently. In the course of events the norm for decency ostensibly represented by the parents moves towards the norm that is valid for the particular culture. The child no longer does *what* the parents command and *because* they command, but because it *ought* to be done.

Educational aid changes gradually. At first it is physical care, cuddling and example. Later on the educational aid consists of the parents' deliberately withholding help because the child needs practice in order to develop the ability of acting independently in accordance with the norm.

The two aspects of authentic self-realisation are:

- (a) individuation which means developing a strong individuality; and
- (b) participation or social integration requiring mature responsibility to his world.

May (Reeves 1977, p. 32) stresses this co-existence of individuation and social integration; which is not mere adjustment. For instance, the egocentric individual is not free – he overemphasises individuality and risks isolation. Because man's potential is indeterminate, no one achieves final self-realisation.

In Empirical Education the focus is on the self-determining, self-actualising child. He has by now *assimilated* the preceding *educational aid* to such an extent that it appears as if he is spontaneously engaged in

growing self-realisation. While studying the growing child, the empirical educationist remains aware of the fact that the child could only have become what he is through educational aid. The converse is also true. The child with developmental problems developed such problems *inter alia* as a result of a lack of supportive educational aid.

In order to come to grips with the problems of the developing child, we distinguish the three main periods in child development, viz the pre-school, primary school and secondary school periods. Practically all children in our culture go through these three stages. We also add a fourth one: the post-school phase, the youth. In spite of individual differences there will therefore be a wealth of common factors and circumstances from which we may draw a profile of the primary school child.

1.2.2.5 The orientation of the child in his world

A child cannot remain a child. The child has to grow up, become an adult. Everyone expects of the child to aim at becoming independent. For this reason the developing child is studied. *It is not the developmental aspects as such that are of primary importance, but the child on a particular level of development.*

The child finds himself in a complex world from the very beginning. He has to orientate himself in his world towards physical objects, people and concepts. This is only possible inasmuch as he *assigns meaning* to these matters. Initial meaning leads to initial orientation which in turn increases his involvement. In his widening world his need to shift orientational boundaries becomes greater. By means of the continued assignment of meaning more relations are formed and the intensity and quality of existing relations are enhanced. In this manner the basic need, i.e. orientation, is satisfied. The *need for orientation* is, however, never fully satisfied; consequently it remains an *important incentive* throughout the life of man. Man always finds himself in some kind of situation. It often happens that some new situation may contain components towards which the person has not yet orientated himself. The child will have to orientate himself increasingly towards the complex technocratic western society. This society reflects the nature of the culture of the people who make up this society.

During this orientation the child has to give meaning to information: meanings are assimilated this way. Simultaneously he has to undergo certain changes in order to be able to assimilate the knowledge (Piaget: accommodation and assimilation). *Differentiation* of experience is probably the most important initial orientational task. He differentiates his experiences as *pleasant* and *unpleasant*. Later on he distinguishes *mamma*

and *non-mamma*, *I* and *non-I*, *mine* and *not-mine*, etc. Thus differentiated experiences are categorised, e.g. all the *my* experiences are integrated. He may painstakingly guard his possessions and refuse to allow other children to play with them. This would remove the toy from the category *mine* to the category *not-mine*.

In this process of assigning meaning the child needs *anchorage points* in order to continue his differentiation and integration. Eventually there will be many such anchorage points, but basically the child is orientated towards his *own body*, his *mother* (or her substitute) and towards the *objects* in his immediate environment. Even the most rudimentary differentiation and integration demand certain psychological functions such as cognition, observation, memorising, recollection, recognition, the formation of images as well as certain motor functions and emotional experience.

It is the life-work of every child (and adult) to constitute a life-world in which he orientates himself towards people, objects, ideas, etc. by forming meaningful relations.

1.2.2.6 Perception

Towards the end of the previous century writers like Ernst Mach (1838-1916) and Christian von Ehrenfels (1859-1932) paved the way for a new approach to psychology, viz. Gestalt psychology. Their experiments with regard to observation led them to distinguish between the physical reality and the observer's observation of that reality. For example: a series of dots may be observed as a triangle. They termed the non-physical component of observation the "awareness of relations". This pattern of relations is called "Gestaltqualität".

Wertheimer, Koffka and Köhler (Langeveld 1961) formulated the basic principles of this approach. The laws of observation which they formulated were those of proximity, correspondence, reticence, continuity, common movement and symmetry. Experiments were conducted to investigate Gestalt formation in visual observation. Köhler (1929) experimented with chimpanzees on the island Tannerife. The concept of *insight/discernment*, the mutual relations between components in any discovery or intellectual achievement, followed from this (Köhler 1929, p. 373). The whole that is observed is more than the sum of its parts. Gestalt formation was explained in neurological terms such as isomorphism and unification which meant that any order in space, time and totality observed as such, was structurally identical to the functional order of the underlying brain processes (Köhler 1929, pp. 61-63).

Gradually more evidence became available supporting the fact that

observation of the relations of components to the whole was a psychological phenomenon. Wertheimer (1959) and Lewin (1951) further developed the Gestalt principle and incorporated it into their psychological field. As a result of this integration of concepts Gestalt field psychologists claim that a person will seldom become aware of an object unless it were to some extent meaningful to him prior to the observation. They define perception as "... a unitary process, in which sensation hinges on meaning and meaning on sensation, and sensing and finding meaning occur simultaneously" (Bigge and Hunt 1962, p. 276). When an object is observed it is *seen* as a relation in a field consisting of the object, the observer and a complex back-ground which incorporates the observer's aims and previous experience.

Madison (1969, p. 234), like the Gestalt psychologists, Wertheimer, Köhler and Duncker, also stresses the influence of previous experience on perception. The observer is not conscious of his previous experience and remains completely unaware of the fact that he is adding something to what is *objectively there*. The observer has the impression that the total quality of his observation comes from the object before him. In his development of this concept Madison (1969, p. 237) introduces the term *reintegration*. This label is used to denote the process whereby (incoming) sensory stimuli localise and interact with traces of previous experience. Conscious perception is the product of integration of the stimulus situation and previous experience. Bruner (1973, p. 14) describes perception in terms of grouping in categories. He says, "... perception is a process of categorization ... to go beyond the properties of the object or event perceived to a prediction of other properties of the object not yet tested ... the inference is often an unconscious one."

Thus perception can be described as a unitary process in which sensation and significance attribution are mutually dependent.

Because of the reintegration of previous experience and the stimulus situation it appears to the observer as if the total integrated meaning comes from the sensation. "A Gestaltfield psychologist ... does not separate sensation of an object from its meaning." (Bigge and Hunt 1962, p. 276).

We shall make use of the verb perceive.

May, too, denies that perception is a passive condition in which a person undergoes sensory stimulation. He says (1970, p. 236) '... perception is directed by intentionality'. One must thus be aware of the object one observes. One does not observe everything within one's field of perception. Choosing to observe an object requires the inner psychic process by which the relevant knowledge is mobilised or, in May's words, '... the inner process of conceiving the object so that I can perceive it'. *The whole personal involvement in perception occurs with the inten-*

tion to attribute meaning. Concepts are formed by language, and then perception can take place (May 1970, p. 236). Without perception no meaning could be assigned to people, objects or self and no life-world could be constituted. Orientation, like the assignment of meaning, relies on finely developed perception. One contacts the world by means of one's senses. *Perception relies on the efficacy of the senses, but it transcends them.* One's visual or auditory capacity may be above normal, but this does not ensure that one will perceive anything. We may distinguish the components of the perceptual act by saying that *the sensory function lies on the periphery of the perceptual act.* Once the cognitive awareness is focused on an object one enters into contact with it during perception through the medium of the senses (sight, hearing, etc.)

1.2.2.7 Forming relationships

(a) INTRODUCTION

The word 'relationship' or 'relation' refers to a connection between two referents. This may be an associative connection between two objects (say, horse and cart) or between an object and its properties (say, grass and green). There is an essential difference between the two types of connection. Grass is green but horse is not cart. The connection is defined in terms of questions such as 'What is the grass like?' or 'what kind of cart is it?' Clearly, relationships exist *for a comprehending person, one who has attributed meaning.* In discovering relationships between two objects, one also compares and recognises meaningful connections as represented in descriptions of relationships in terms of position (above-below), appearance (large-small), quality (durability), utility (usefulness), etc. To understand objects one must discover their mutual relationships by, inter alia, physical handling and thought. The relationships have objective existence; one does not create them. One of the scientist's tasks is to uncover interrelationships, for reality itself is logical and rational (Kuypers 1963). Whitehead (May 1970, p. 112) considers that the components of reality are not static but in dynamic motion, interacting between poles based on this interrelationship. May (1970, p. 112) agrees with Whitehead and Tillich that *all of reality, ontologically speaking, has a fundamentally polar structure.* This does not apply to nature only: the best example on the human level is maleness and femaleness. Man depends on woman and vice versa. Adler states that an individual in isolation cannot be investigated (Kuypers 1963, p. 340). The individual exists for society and society for the individual. According to Reeves (1977, p. 283): 'Personality cannot be understood apart from

its social setting' and 'self and world are correlates, each understandable only in terms of the other.' Society provides a world for the person without which personality would be meaningless. This natural interrelationship between objects, between people and between people and nature serves to stress how important it is to study relationships. These were highlighted by Einstein, who posited the interdependence of energy, space, time and matter. Man is aware of his own world within this essential connection between man and world. May (Reeves 1977, p. 230) sees this active dynamic awareness as 'Intentionality (which) contains both our knowing and our forming reality and these are inseparable from each other.'

If the child is to orient himself in his world – as he must in order to survive and mature – he must form relationships with this world. Buitendijk characterises this ontic phenomenon by saying that the child initiates relationships. The child's forming of relationships is so basic a task that we must take note of it. The child must understand in order to form relations; but understanding is improved by forming relations – not only the understanding of single referents but also of their place and function in a meaningful whole. *Relationships must be seen as a bipolar connection between the child as one pole and the significant other, or the object, as the other pole.* By forming relationships, the child constitutes a life-world that forms his psychological space and reality to which he is oriented.

Since we take relationships to mean the interaction between the child as one pole and a given section of reality as the other, we now have two components to study. One component is the *referents as poles* (e.g. child and mother) and the other is the *nature and quality* of the relationship. *Nature* refers to the *cognitive component* and *quality* to the *affective component*. Since a relationship is formed by understanding the other pole, this attribution of meaning can only take place by way of involvement with the referent and with the quality of meaning formed during involvement and experience. In the present context, the child forms one pole; all other referents to which the child could attribute meaning form the other pole. This other pole can be split up into the broad categories of other *people, objects either in nature or modified by culture, the child himself, and God*. Only when an individual has assigned meaning to a referent from his own frame of reference can we speak of such a bipolar relationship: it is always a question of dynamic interaction. Tillich and May (1970), amongst others, stress this concept of polarity. *The mutual interaction between the poles manifests itself in attraction or repulsion, acceptance or rejection, friendliness which draws them closer together or unfriendliness that pushes them apart.* Where the other pole is an object, it is a question

of usefulness, valency or attractiveness, or their opposites that lead to separation. If a pupil in a gymnastics class keeps falling off the bar, he feels humiliated and tends to avoid the bar (and perhaps everything connected with it). So one relationship influences other relationships. The attraction (pleasant) and repulsion (unpleasant) between the child as one pole and the various referents as the other poles are not always of equal magnitude. This depends *how it affects the self or how important it is to the self-concept*. Clearly, then, there is a constant evaluation of the meaning attributed and even of the act of attributing meaning (involvement) *so that it is experienced as pleasant, unpleasant or something in between*. This *effect of polarity* inherent in relationships and their formation can best be illustrated by the poles of a magnet. Depending on the force of the poles and the distance between them, the poles attract or repel each other. The force of the relationship between a child and, say, a friend from his peer group will depend on *their knowledge of one another and the psychological distance between them, i.e. how this affects the child's self as the core of his personality*.

(b) THE CHILD'S RELATIONSHIPS WITH PARENTS (EDUCATORS)

Looking at the relations between a child and his parents as a relationship between two poles, we must determine what the bond is, how it is formed and what the implications are. The relationship is both cognitive and affective. Child and mother (poles) get to know each other and the relationship *is characterised as pleasant or unpleasant, affection, care, feeding or the neglect of these things*. As the child grows he experiences the activities composing this relationship as *acceptance or rejection (polarity)*. An example: A mother gets to know her child, starting with its mere identity and progressing until she knows the meaning of every gesture, groan or cry and even how much food the child needs. Each child is unique, so that the mother who has raised ten children has merely raised ten individuals. She becomes more experienced, but there is no question of generalising.

The child also *gets to know its mother*. He recognises her way of handling him when he is hungry or uncomfortable or needs changing. Her ways of feeding, cuddling and making him comfortable are recognised before her face becomes familiar or language is understood. As a result of consistent behaviour the child gets to know its mother and anticipates what will happen when it hears her footsteps. Knowledge grows along with its cognitive powers. The child hears, sees, and feels; memorises the visual image, voice and method of handling. Differentiation, integration and memory all improve and,

in time, also its command of language. *So the child knows its mother and understands what she means even when she says something else or remains silent.* The mother knows the child with all its behaviour patterns – joy or sadness when it is ‘good’ or ‘bad’, sick or well. Because of all this explicit and intuitive knowledge, neither can deceive the other about anything personal that is strongly experienced.

The *affective component* can be as clearly distinguished although it is tied up with the cognitive. Emotive experience supplements knowledge and supplies its quality. The mother experiences and gives love, and this determines the nature of her care. The child experiences affection, calm and security with its mother, often in physical modes as she pick him up, hugs or comforts him or simply plays or chats with him. Within this bond we can clearly distinguish a cognitive and an affective component which interact and cannot be separated. Knowledge often enhances love, as love demands greater knowledge. There is however, not necessarily a high positive correlation between knowledge and love. The cognitive component is determined by cognitive powers such as the senses, memory, recall, differentiation, integration, induction, deduction, etc. *The affective component consists of love, care, trust, respect, acceptance, security, etc.* This knowledge of and feeling for one another, or its absence, result in *polarisation expressed in acceptance and rejection, closeness and estrangement.* Of course, the positive and the negative – closeness and estrangement – are often present simultaneously; but it is the total effect which (if positive) motivates the child to exploration and the constitution of a life-world or (if negative) inhibits these activities. The child’s relations with its mother (parents), with its polarising effect, forms a vital anchorage point for its relations with other people – or with objects. The same types of relations are formed with other educators.

These attributes of the educand/educator relationship can occur in any relationship, and any one attribute can vary from strongly positive to strongly negative. A child’s relationships to various educators can differ profoundly.

The relationship (with its polarisation effect) is highly affective because of the way the attribution of meaning to one another (educand and educator as poles) is experienced. It is because of this affective evaluation that the intentional tendency develops from a feeling of attraction or repulsion into action. The polarisation effect determines the kind of involvement: *‘I want to come closer’* or *‘I don’t want to come closer’*. Consistent care, affection and support enable the child to anticipate both general and specific help and support. The child initiates the relationship, but its effectiveness depends on the

educators. *They must guide and support, and determine the quality of the relationship.* When a *child has educational and or developmental problems this relationship must be closely scrutinised.*

(c) THE CHILD'S RELATIONSHIPS WITH HIS PEERS

Within the family the child relates to parents, brothers and sisters. The relationship with the mother (or father) is the primary anchorage point for relationships with other people. The small child soon notices other children and wants to be noticed in return. He identifies with his playmates and evaluates his achievements against theirs (cf. Gordon 1975, pp. 169, 208 ff, Hamachek 1975, pp. 212 ff). These relationships with peers grow more and more intense until in adolescence they are stronger than the relationship with the parents.

The *polarisation effect of relationships with peers* is clear enough. The child is constantly involved in dynamic relations of *acceptance or rejection, attraction or repulsion, avoidance or being avoided, being sought out or not*. These relationships, too, depend on mutual knowledge. The better the parties know each other, the better the chances of authentic relations and of purging these relations of factors like supposed rejection. The cognitive component depends on effective communications. Positive polarisation displays the following characteristics in varying degrees of intensity:

- (i) Conformity of attitudes, behaviour, speech, dress, etc.
- (ii) Acceptance – preferring one playmate to another; the formation of cliques.
- (iii) Cooperation, playing together casually or in team sports.
- (iv) Trust. Acceptance means unconditional trust.
- (v) Erotic admiration. With puberty and adolescence come erotic admiration and sexual attraction, which develop into love but also continue to be components of love.

This relation to peer groups, with its quality of positive polarisation, is a *sine qua non* for a child's emancipation.

(d) THE CHILD'S RELATIONSHIPS WITH OBJECTS

A child is always coming into contact with natural or cultural objects. To orient himself, he must get to know these objects by assigning meaning to them, and this requires involvement. Relations with objects are characterised by:

- (i) *Knowledge* leading to orientation. This comprises denotative as well as connotative knowledge. Connotative meaning is the most important dimension for the polarising effect. Examples: *'the flower is pretty, I'm afraid of the spider, I love my dog'*, etc.

(ii) *Utility* as the usefulness of the object to the individual.

When meaning is assigned in this way, involvement is needed to discover utility: a pen is for writing with, a chair for sitting on, a house for living in, a ball is for kicking, etc. In this case, too, the polarising effect is clear: I like my doll, my car, bed, mug, etc., but the knife that cuts me, the fire that burns me and the bicycle I fell off are objects to shrink from. The negative polarisations can become positive only after better knowledge, greater involvement and therefore more effective orientation.

(e) THE CHILD'S RELATIONSHIPS WITH HIMSELF

Throughout this course we assume the existence of a psychological-physical self: a bodily self, and psychological abilities that can be known. The child will recognise himself on a photograph and also his own voice recorded on a tape. Knowledge of one's own identity consists in the first place of recognising and identifying it. Of course, this gives rise to that self-image that one can conjure up for oneself, and this self-identity is constantly evaluated by subjective standards. By comparing himself with his peers, with their achievements in handling natural or cultural objects, the child evaluates himself and his abilities in relation to the norms. This gives rise to *his self-concept as a relation to himself, with a clear polarisation effect of self-acceptance or self-rejection*. If the child does not like himself – love himself – he will not accept himself, and this self will have to be protected under all circumstances. All this has a disastrous effect on exploration and self-exposure in problem situations.

1.2.2.8 *The parent-child relation as the primary relation for Empirical Education*

Whatever the parent does to relieve the hankerings of the child, is meaningful to the child. As the child experiences meaningfulness, he will increase his ability to *assign meaning to the actions* of the parents (Oberholzer, 1972). By means of this loving care the child is introduced to the culture. Gradually he will reach greater self-realisation.

The question arises whether or not there is empirical support for the claim that the parent-child-relation is in fact the basic relation which is formed by the child.

Empirical research data indicate that children testify to the importance of their relations with their parents as they experience them. Bealer, Willits and Maida (1964) found that among 506 secondary school children more than three quarters considered their parents the

most important *points of reference* in their lives. Lipset (1960) found that the *political attitudes* of teen-agers follow the voting pattern of the parents. Putney (1961) investigated the *religious views* of students at thirteen different colleges. He found that the views of the majority of the 1088 students coincided with those of their parents. According to Zunic (1972) girls are influenced significantly more by the *attitude of parents* than are boys.

Oberholzer (1972) draws attention to the fact that (viewed from a dialogue perspective) the I-you-relationship between educator and child forms the *prerequisite for the vertical I-Thou-relationship*.

The parent-child relationship can lead to *deviant behaviour* in the child. According to Sommers (1961) *maladjustment* among children is preceded by unsatisfactory relations between the parents at home. Gregory (1961) found that among *juvenile delinquents* there were histories of clashes and arguments between parents, divorces and the subsequent placing of children in children's homes where no meaningful relations towards a parent figure could be formed. Brooks (1963) established a significant correlation between *truancy* and the attitude of parents towards the school. Koch (1961) indicated the presence of a markedly higher degree of anxiety among pre-school children *from broken homes* in comparison to children from homes where both parents were present. Heinsteins (1963) was able to establish a meaningful relation between the *warmth or aloofness* of the mother's attitude towards the child and the child's *adjustment or lack of adjustment*.

The above empirical data supply strong arguments in favour of the importance of sound pedagogical relations between child and parent as prerequisites for the constituting of other efficient relations, which, in turn, are indispensable for efficient self-actualisation. The child-parent relation will always affect the quality of the child's life-world, his mode of self-actualisation and his emancipation. In cases of delinquency the parent-child relation should necessarily be investigated first and foremost.

1.2.2.9 Independence tasks as framework for empirical educational study

The child who wishes to mature, is dependent on educational assistance. Our main object of investigation is the maturation of the child. We therefore endeavour to find points of progress whereby the level of attained adulthood can be ascertained. Such points of anchorage can best be found within the large categories, viz the pre-school child, the primary school child, the secondary school child and the youth. A child's

learning to walk can be ascribed mainly to biological growth. Learning to talk, to read and to associate with friends, however, depends on the interaction between educational assistance within a specific cultural milieu and self-actualisation. The recognition of individual differences leads us to the conviction that the exact age (in years and months) at which a child masters certain skills is not of primary importance. Of more importance are the sequence in which certain skills are acquired and the relation between one successfully mastered skill and the mastering of another developmental task. The obvious approach to the nature and sequence of developmental tasks would therefore be a nomothetic empirical approach.

In a particular culture the specific level of maturity of a child is highly valued. It can therefore be expected that the realisation of such standards will be set as educational and teaching goals. Witness the diligent encouragement with which the child is aided to walk, to talk, to learn to read, etc. It is obvious that each developmental task can only be accomplished on a threefold basis.

- (a) *The biological basis.* Walking, running, writing, reading, etc. depend on biological growth, myelination of the nerves and muscular co-ordination. Ample time and opportunities to practice these skills will be necessary.
- (b) *The psychological basis.* The child's psychological abilities enable him to assign meaning to the particular task. Intellectual ability, emotional control, ideals, expectations, etc. determine the degree of personal or psychological involvement required to attempt each task.
- (c) *The cultural basis.* The importance of certain skills are universally acknowledged but both the intensity and speedy realisation of such tasks as well as a wide variety of other tasks are culturally determined.

Development takes place on this threefold basis, but the children concerned reach self-realisation by means of the continuous assignment of meaning to those situations in which they are wholly involved. This involvement implies interaction in which each of these basic facets are represented. In this way each stage of development determines the nature of educational assistance appropriate to it.

Educational implications. Since education and teaching have a gradually upward tendency, the realisation of one task will render possible a following, more intricate task.

A developmental task can therefore be defined as a task that a child of a certain age or a certain phase can successfully execute. Such an accomplishment is praised by people who are important to him. Should he fail, he would feel unhappy. His community would

consider his failure disagreeable and he would have problems with the realisation of further tasks.

1.3 CATEGORIES AND CRITERIA OF EMPIRICAL EDUCATION

1.3.1 Introduction

We have seen that Empirical Education has its own perspective on the educational phenomenon. It is concerned with the participants in the educational act. This focused vision centres on the educand and the educator as individuals in a specific relationship with one another. When focused on the educand, it still embraces the educator and the educational process. This perspective enables the empirical educationist to *study the 'educand' rather than the child*. The educand may be engaged in any of the educational acts of the pedagogic sequence structures (Kilian). One can therefore focus on him during togetherness, encounter, engagement, intervention, a return to togetherness or periodical breaking away. The same is true of the educator; but we are here concerned with the educand. Empirical Education observes, collects and structures the empirical facts concerning the actual child in his empirical situation.

We need, then, to establish the *essential factors involved in being an educand* and to use these as categories of Empirical Education. We can describe these categories as illustrative modes of thought, milestones or fixation points that are essences which will ascertain that our information regarding the educand will be pedagogic. (Oberholzer, Landman, Van der Stoep and others have had a good deal to say about pedagogical categories.)

The educand is a child on his way to adulthood with educational help. He can *make progress* only if he recognises, knows, understands and is capable of action. This is why the *attribution of meaning* is seen as an empirical-pedagogical category. He may be in a meaningful world and receive the best possible illustrations or explanatory teaching but he must in the final analysis *himself understand* reality in the context of the functional knowledge he already has. Meaning cannot be passively 'taken over'. It must always be discovered by an active *assignment of meaning*.

The child cannot mature if his condition is one of passivity or apathy. It is his involvement with the world that gives rise to an involvement with objects, people and himself. Involvement is characterised by purposeful effort in order to achieve, to overcome obstacles and to solve problems. This conscious engagement in knowing and orienting himself

is what we mean by *involvement*. This can never be random or haphazard: he is helped, guided and supported by education, because his efforts must lead to progress towards adulthood. Involvement is therefore related to (to which we shall return) intentionality. Attribution of meaning and involvement have to do with the child's concern and relations with people, objects or events. We also need to consider how the child is personally affected by his involvement and his attribution of meaning: in other words, what does the educand experience within himself when he is accepted (or rejected), when he is given love, successfully comprehends something or is purposefully involved in a meaningful action? *What the educand experiences* subjectively during the process of becoming is also an empirical-educational category. These experiences determine whether the child esteems or despises, accepts or rejects himself. At birth he is passive but has tremendous potential: at the same time he is surrounded by obstacles to be overcome, even in his own body. For his eventual exploration of and entry into the world, success is essential. Success reassures him and spurs him to further effort and risk. It forms the basis of a positive self-image. (Of course, the converse is also true.) Educational help is therefore essential to ensure that the child's experiences will promote the process of becoming. Buitendijk has long established as an axiom of child anthropology that the child is the initiator of relations. For the empirical educationist this means that the educand assigns meaning and is involved – *wants* to understand and *wants* to be involved. An educand *wants* to grow up as a matter of course. The child's ideal of maturity is constituted by concrete moments observed in adults – for instance, he wants to be as strong as his father, to run as fast as his football hero; she wants to be as pretty as her teacher. The child needs to identify with an adult. At other times, 'being grown-up' means specific independent actions like feeding or dressing himself. Thus taking the initiative in growing up, becoming what he should be, can be called self-actualisation. It can be done only by means of educational help, so that self-actualisation cannot occur except as guided actualisation. *Self-actualisation*, then, is another empirical-educational category.

For the baby it is a major breakthrough when he 'discovers' his own hands and feet: one of the very first indications of self-knowledge or of an own identity. Identification continues until a personal identity is formed. This identity, with its physical and psychological properties and its extensions, enables him to answer the question '*who are you?*' But it is never simply an objective rational knowledge of the self. This self is inevitably judged by subjective norms and evaluated as good or bad, good-looking or plain, clever or stupid. What results is the evaluated self-identity called a self-concept. When Langeveld says that the child wants to be somebody, the empirical educationist takes this to mean

somebody specific – someone the child can accept and esteem by his own standards. *Being somebody, as a category, means the establishment of a self-identity and positive self-concept*, and this is possible only with educational support.

According to Landman (1977, p. 16) the educator sees the evaluatory significance of pedagogical categories, understands them and uses them as criteria for his own educational work – to assess whether what he is engaged in is education or not. A child who, despite so-called educational help, cannot understand, become involved or form self-identity, cannot mature, and such ‘help’ is not authentic educational help. The empirical educationist is constantly involved in the concretising of educational help towards the child’s self-actualisation.

We can now deal in more detail with each of these categories:

1.3.2. Significance attribution

In empirical education studies then, we identify as pedagogic any actions of the child which are concerned with the attribution of significance to things. For instance, the child’s physical development and maturation are important from the pedagogic point of view if we can establish their function with regard to the child’s exploratory endeavours to construct a meaningful life-world for himself. When we think, for example, of a child who is learning to talk, we are not really thinking of language development. It is certainly interesting to note the sounds and the words he utters at this early stage, and the extent of his vocabulary at the age of two, but these things assume pedagogic relevance only when we are able to determine what meaning the use of language has for the developing child and how he makes use of language in the process of making sense of his world or attributing significance to it. Similarly, the only type of learning which is pedagogically significant is intentional, meaningful learning – particularly when it takes place in the pedagogic-didactic situation. Significance attribution is an inherent function of childhood. The very small child who recognises relationships between himself and the persons and objects in his world is engaged in the process of attributing significance. The process begins when the child learns to differentiate between his sensory perceptions so that, to a limited degree, he can make predictions and entertain expectations. As his body develops and his control over it increases, he begins to explore himself and his world and thus to assign meanings to whatever he encounters. His activities in this direction are constantly on the increase and he becomes increasingly responsible for his own significance attributions.

The child assigns meaning or attributes significance in order to orientate himself in his environment. An increase in meaningful relations enables the child to enhance his orientation. Thus a developing life-world is constituted.

Two additional questions need to be answered:

- (a) What is the nature of meaning?
- (b) How is meaning structured? In other words: How does development of meaning take place.

If a person, object, situation or concept is meaningful, it must already have been meaningful to a person. Meaning can only be discussed on the presupposition that there is a person who understands. Ogden and Richards (1953) introduce their analysis of meaning with a discussion of the relations between ideas and words, and ideas and objects. There is a relation between the idea and the word as symbol and a relation between the idea and the object as referent. Meaning is abstracted from the concrete situation depending on the way in which the particular person understands it. Thus, there is a relation between my mind and the object *ash-tray* and between my mind and the word *ash-tray*. However, no relation holds between the object *ash-tray* and the word *ash-tray* other than via the mind of a particular person.

A sign can only be meaningful if there is a person who can interpret that sign. This goes for the stop sign which the motorist has to interpret as well as for the patient's temperature which the doctor has to interpret. *Meaning exists only in the mind of someone who understands.* If a person understands, there is a relation between his mind and the referent on the one hand and between his mind and the symbol on the other hand.

As a symbol for the description of meaning, language has an indispensable function in daily life. When a referent, sign or symbol is meaningful, the necessary critical features for the description of the object can be distinguished. A person must be able to constitute the logically meaningful object or statement. A description should not be contradictory. Thus a *square triangle* cannot be logically meaningful.

Over and above the logical meaning of an object or concept a person or group of persons may assign individual meanings to it. Such meanings are usually emotive. There may be so many affective overtones in the total psychological meaning that the logical meaning is overruled. Hence a child may develop an abnormal fear of cats or spiders.

The understanding of the logical meaning of a concept pre-supposes a certain cognitive structure and functional knowledge. However, the person is involved as a totality in the relations which he finds meaningful. Piaget (1954, p. 145) says: "Consciousness is essentially a system of meanings that may be cognitive (perceptual, conceptual, etc.) or affect-

tive (values with a conative factor being implied here). These two (cognitive and affective) aspects of meaning always go together; they cannot exist independently, although they may be examined separately." May (1965, p. 206) also stresses the conative aspect: "Intentionality is the capacity by which we constitute meanings in life." Frankl (1964) rightly says that man's search for meaning is a primary motivational force in his life. He longs for a life as meaningful as possible. The meaning of our existence is not so much invented as discovered. Frankl (1964, p. 105) sees man as "a being whose main concern is fulfilling a meaning and actualising values". Because of the total involvement in significance attribution the meaning of any object or event is its relation to the self of the perceiver.

In the learning situation tutorial material must be logically meaningful, because meaning eventually appears in the mind of the individual. Ausubel (1968) points out that we are not so much concerned with the logical meaning of teaching material in the school – this is presupposed – as with the psychological meaning. This is the actual, idiosyncratic, cognitive product which results when a particular learner relates or integrates potentially meaningful material with ideas in his cognitive structure. Meaningful tutorial matter can only be learnt in relation to the relevant concepts, ideas and principles that have already been assimilated. Thus new meanings are established. The effectiveness of a new meaning depends on its permanence or conservation (Piaget).

If the cognitive structure is organised in a clear, stable and efficient manner, and if it comprises suitable linking ideas, accurate, unambiguous meanings will appear which will be identifiable and available (Ausubel 1968). This point of view leads Ausubel to stress the necessity of explanatory teaching for meaningful verbal learning whereby ideas are formed and assimilated.

Everybody gives meaning to his identity as he understands it. These meanings have a logical dimension with distinguishing features of which people have a common understanding. There is a further dimension of meaning which is idiosyncratic and uniquely a person's own. Ausubel (1968) calls this the connotative dimension of meaning. It includes the affective aspects and aspects of values involved in self-evaluation. The total integrated meaning of an individual's self-concept can only partially be known by others: either from inferences made from his behaviour or from the person's own revelation of the meaning of his self-concept (e.g. an autobiographical report).

Through this spectrum of meaning which relates everything in his life-world to him, he gradually orientates himself to a widening life-world. The better the orientation, the greater and more effective the degree of independence. Without increasing significance attribution there can be

no development towards adulthood or growth in independence. Psychological meaningfulness determines whether or not an act or situation is to be considered as an empirical pedagogical one that will *lead to further maturation of the child*. "*Yet it is only through genuine understanding that we will be able to deal effectively with whatever comes our way and be really secure and happy*" (Lombardi, 1975 p. 115).

Meaning clears the way for further attribution of meaning – a *sine qua non* for the maturing process. By attributing meaning, the child orients himself and constructs a meaningful life-world. Because logical meanings are embedded in the surrounding culture, pedagogical assistance – and particularly, at school, pedagogical didactic help and explanatory teaching – is essential for the optimal attribution of meaning. Spranger (cf. Langeveld 1961, p. 440) succinctly expresses this idea when he speaks of a hierarchy of meaningful totalities. Whatever is meaningful is therefore a factor in a totality of values. A totality made up of meaningful parts is called a totality of meaning (Sinnganze). Such a totality may in turn be part of a higher or more comprehensive totality of meaning. To understand something means to fit it into the totality where it belongs. For instance, a word has no meaning in isolation: it acquires meaning in the context of a sentence, and the sentence acquires meaning in the context of the whole communication. An action becomes meaningful when carried out in order to actualise a value. *The maturing child will not actualise himself unless he knows, understands and is capable of action, i.e. unless he attributes meaning*. Hence the attribution of meaning is an essential empirical-educational category of the maturing process: the explication of logical meanings and the affective overtones of connotative meanings all depend on educational help. This is obvious when we look at the effective attribution of meaning; but it is equally true that ineffectual attributions of meaning can often be traced to a lack of good educational help.

We can now discuss the essential components of the attribution of meaning.

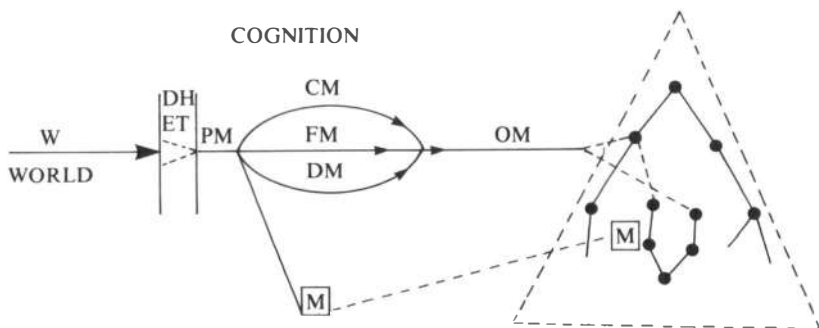
Essential components of the category of significance attribution

- (a) *Orientation* is made possible by meaning. Once a person (child) knows or understands an object, person or word, or his own body, he is oriented towards it.
- (b) Meaning is *idiosyncratic*. It is always found or grasped by a person.
- (c) Meaning always *relates* to other meanings in the *cognitive structure*.

- (d) Meaning always has a *logical* dimension that makes mutual comprehension possible. This is known as the denotative meaning.
- (e) Meaning also has a *psychological* dimension, the peculiar meaning assigned by a given person. This is known as the connotative meaning.
- (f) Meaning is *discovered* rather than invented. The world the child enters is a world of meaning, and he must increasingly discover the meanings it contains. For him to do this, educational help is indispensable.
- (g) Meaning can be attributed only when a person *wants* to do this – *wants* to understand.
- (h) The attribution of meaning always has an *action component* not necessarily motor action; it may also be predominantly mental action.
- (i) The attribution of meaning is always *cognitive*. It depends to a greater or lesser extent on differentiation, integration, comparing, memorising, etc.
- (j) There is always an *affective dimension* to the attribution of meaning, for instance the sensation of success when meaning breaks through and the pleasure or anxiety involved in the connotative dimension.
- (k) Meaning always has a *normative component*. The logical aspect in particular must be congruent with objective norms. When it comes to psychological meaning, the individual consciously or unconsciously sets up subjective norms, e.g. for self-acceptance.
- (l) The attribution of meaning is *a task of the person*, who is always totally involved in the process.
- (m) The assignment of meaning implies that the *nature and quality of relations* with an object or person are determined by the meaning assigned.

ATTRIBUTION OF MEANING

COGNITIVE STRUCTURES



- W = CULTURAL WORLD
- ET = EXPLANATORY TEACHING
- DH = DIDACTICAL HELP
- PM = POTENTIAL MEANING
- CM = CONNOTATIVE MEANING
- FM = FUNCTIONAL MEANING
- DM = DENOTATIVE MEANING
- OM = OWN MEANING (RESULT OF ASSIGNMENT OF MEANING)
- M = MECHANICALLY MEMORISED KNOWLEDGE: LOOSE CHUNKS IN COGNITIVE STRUCTURE

1.3.3 Involvement¹⁾

Involvement implies *drawing* in or being drawn in. It means that a person or issue is drawn closer and that the subject is therefore involved with it. It can be either a subject-subject or a subject-object relationship. The subject physically and psychologically draws in the other person, or the issue and is intensely involved with him or it. Obviously, the subject must not only be willing to be involved but must intend it. One cannot be incidentally or sporadically concerned with an issue one is involved with – no more than the government of a country at war can be sporadically interested in its own armaments or in enemy activity.

To be involved, at least a modicum of functional knowledge is required. One cannot be involved with an issue of which one knows nothing and with which one has no concern. One gets involved because of one's intention to *know more*. To be involved implies that one wants to be involved.

We need to see the connection between involvement and will. Kuypers (1963, p. 232) defines the will as the longing function of the human psyche. It works outwards and longs to change the status quo. As he says, the instinct and impulses emerge as motivations in the function of willing that actively strive for changes in surrounding reality. Kuypers stresses (1963, p. 240) that the will must not be seen as a separate entity: it is simply a function of the soul, a specific, active aspect of the personality. This is confirmed by May (Reeves 1977, p. 156) who sees the will as the basic intentionality of human existence. According to Meyer (1967, p. 38), intentionality refers to awareness: to be aware of something, to observe it, think of it, desire it, etc. This is how May (1970, p. 230) describes the connection between the person in totality and the world he is conscious of: 'Meaning has no meaning apart from intention. Each act of consciousness *tends toward* something, is a turning of the

1) Cf. Landman et al. (1977, p. 97): *Toenemende inspanning as pedagogiese kategorie*.

person toward something, and has within it, no matter how latent some push toward a direction or action.' In other words, he stresses the intrinsic interaction between an objective – seen as a value to which meaning has been attributed – and the will. It is therefore the person in his totality who *wants to assign* meaning.

Despite this involvement-in-totality with all psychological functions, the conative function may be distinguished by these properties:

- (a) *Knowledge*. The conscious cognitive process is essential to all conative processes (Kuypers 1963, p. 244). 'Cognition or knowing and conation or willing, then, go together. We could not then have one without the other' (May 1970, p. 230).
- (b) *Setting an objective*. An objective includes all the possibilities of which a person can be aware, everything that has value for him. In the broadest sense, values comprise whatever satisfies or means happiness to a given person at a given time.
- (c) *Choice*. Once objectives are known and their implications have been considered, a decision is then taken. '*This is the objective I want to achieve.*' That completes the preparation. Action now follows.
- (d) *Conative action*. As soon as the decision is taken – the objective selected – internal or external action begins, i.e. psychological or motor action. It may take only a moment – for instance signing a cheque or contract – or it may take perseverance, as in setting oneself to become a champion boxer or enrolling for a university degree. What is then involved is a conative attitude, an attitude of the will, by which the action is maintained over a long period.

The *task* of the will lies in the action by which the self is actualised and its life-world structured. It includes the dynamic progressive orientation and re-orientation, shaping and re-shaping of an entire life that is constantly in transit, by way of change and improvement, to a more structured and integrated existence. This is not a game or a role to be played: it demands the person in his totality. Frankl (1964, p. 99) says that 'man's search for meaning is a primary force in his life'. He sees this as the 'Aufgaben-Charakter' or life work and stresses the importance of personal responsibility (Ghysbrecht 1977, p. 132). We may distinguish *a number of conative actions* on the basis of the degree of conscious awareness involved:

- (i) *Reflex actions* that take place mechanically. This is not a conative action in the true sense of the word. Most reflexes derive from self-preservation and become automatic by force of habit.
- (ii) *Ideomotor actions* based on what a person visualises. Since visualisation is a highly individual affair, these actions are subjective: for instance, a conscientious bank official unexpectedly embezzles money or a policeman suddenly accepts a bribe. It is a partial re-

action of the psyche to what is visualised. Many 'small everyday actions are of the ideomotor type, e.g. the choice of a tie or a pen. However, an important action that should have involved the whole awareness can sometimes be taken ideomotorically, i.e. shooting a red traffic light.

(iii) *Pure conative action*. A decision to act is taken by a person as an organised whole. The implications of objectives have been considered in the light of knowledge, an objective has been selected, and responsible action is then taken.

A person's vitality is determined by his intentionality (Paul Tillich 1952). Intentionality stresses purposefulness. *Involvement may be defined as the psychic vitality or vigour with which a meaningful objective is pursued and achieved*. It depends largely on the person himself whether his potential will be actualised (May 1970, p. 243). Again, *involvement* in actualising a *meaningful* objective is defined by this psychic vitality expressed in vigorous physical and psychological action – which may be protracted, entailing a conative attitude.

In an educational context, a child in the process of learning and becoming must progressively orient himself in regard to people, objects, ideas and himself. He does this, with educational help, by learning, understanding, forming meaningful relations and building up a life-world within the ambient culture. *The psychic vitality that is the driving force behind all learning and developmental tasks is defined by the empirical educationist as involvement*. It depends largely on the child himself – his involvement in the task of living and becoming – whether his potential is actualised or not.

Involvement presupposes a valued objective. The child always sees maturity as the ability to perform a given task. He considers himself grown-up when he can feed himself, tie his own shoe-laces, read, write, or choose a career. The child is intensely concerned with every task of learning or becoming; involvement in the maturing process cannot be reasoned away. Involvement can be recognised by conative action, but it cannot be understood without knowing its intention. 'You cannot understand the overt behaviour except as you see it in relation to, and as an expression of, its intention' (May 1970, p. 230). Because of the inherent interdependence of knowing and willing, the willed objective must to some extent be known. 'If I do not will something, I could never know it; and if I do not know something, I would never have any content for my willing' (May 1970, p. 230).

Every child wants to be grown-up, and this means that he is involved in every task of learning or becoming. Not only must he understand its purpose – he must also see how to perform the conative action. This calls for educational help, to expose not only the meaning of the objec-

tive – the *where to* – but also the *how*. The educator must help the child to get involved in assigning meaning to the task of becoming and in carrying it out. Pedagogically speaking, such an involvement in the process of becoming is an involvement in norms – a progressive involvement in an ever more satisfying embodiment of their validity and the demands they make (Oberholzer 1968, p. 300).

Involvement in the actualisation of cultural values and norms constitutes an empirical-educational category. The intensity of a child's involvement is evidenced by the degree of attention, absorption, interest, perseverance, dedication, expectation, practice, etc.

Concrete experience of the great life work (Frankl) of becoming mature occurs when the child encounters obstacles and challenges. According to Lombardi (1975, p. 113): 'Our initial striving is to overcome'. The child is constantly experiencing *his own problem, his own obstacle, his own challenge*; and so each victory or success demands an exertion of psychic vitality, i.e. involvement, in accomplishing or mastering the task. If the child is the initiator of relationships (Buitendijk), he must solve his own orientation problems, establish his own meaningful relations – in a word be involved in actualising himself as the open possibility inherent in his expanding potential. He cannot be involved unless he wants to be, i.e. unless some degree of meaning has been attributed to the objective. Maturity and all its component aspects, as seen by the child, entails intense involvement in the actions leading up to it. These may be broadly classified as becoming, attribution of meaning, formation of identity, and belonging. Successful self-actualisation is largely determined by the intensity and quality of involvement, which depends on educational help to activate and direct it.

A child may also be involved in what is wrong, worthless or destructive. But where his objective is uplifting, illuminating and normative, involvement as a psychopedagogical category tells us not *where to*, but *how* – the nature of his intense concern with the achievement of the educational goal.

A second danger – apart from involvement with what is destructive – is a lack of involvement. This shows up as indifference, listlessness, or apathy in the sense of an absence of feeling, passion or excitement. As May says, it is not hate that is the opposite of love – it is apathy. The opposite of will is not indecisiveness but being uninvolved, detached, unrelated to the significant events. Then the issue of 'will can never arise' (May 1970, p. 29). Supportive educational help is needed to direct the child's assignment of meaning and his will to involvement.

Essential components of the category of involvement

- (a) Involvement entails an occupation or *action* – either a psychological or a motor action.
- (b) It refers to action directed towards an *objective*.
- (c) It means an action in which a person engages *because he chooses to*.
- (d) Involvement, to the person involved, means *significant* action: he is convinced that this action will help him achieve his objective.
- (e) Involvement presupposes *interest* in the objective but also in the action.
- (f) Involvement is possible only when the interested person gives his *attention* to it.
- (g) It often requires *practice* and *perseverance* in the activities concerned.
- (h) Involvement as directed action shows that the achievement of the goal is *anticipated or expected*.
- (i) Involvement as action defines *self-actualisation*;
- (j) Involvement is *experienced* – as success or failure, anxiety, joy, meaning, frustration, confusion, etc.
- (k) Involvement is the name given to the active intentional assignment of meaning undertaken by *a person in his totality*.
- (l) Pedagogically speaking, the child's own involvement in his self-actualisation is the index of the educator's success in involving the child in his totality with valid, *demanding norms*.
- (m) Involvement may be defined as the *psychic vitality* that drives, directs and intensifies the actualisation of the tasks of learning and becoming.

1.3.4 Experience

The possibility of being a participant in a situation is given to man. He can be receptive to the values and meaning of the situation (Garbers in Nel, Sonnekus and Garbers, 1965). All behaviour is accompanied by feeling. Examples of feelings that can be *experienced* are *listlessness or disappointment, tiredness, sadness or gaiety*. In feeling and in willing, experience is primary, says Kuypers (1963, p. 207). Each affective experience has a different quality. It indicates that the individual is touched by a situation; but he must also be open and accessible to its meaning (Nel et al., 1965). One cannot select one's experiences in advance. People who strive for happiness find that it eludes them. *Feelings are determined by the situation, or at any rate by the meaning attributed to the situation*: '... affect is not something you strive for in itself but a by-product of the way you give yourself to a life situation' (May 1970, p. 15). Psychological

feelings like *joy, sympathy, sadness, antipathy, etc. do not occur in a vacuum*. They cannot be summoned at will. They are an indication of how a situation is being experienced and evaluated. In experiencing a situation to which a certain meaning has been assigned, subjective experience is integrated with meaning and so the meaning acquires a personal dimension.

Should I for example suffer the agonising experience of a car crash or the death of a loved one my factual description of the event will probably be dominated by the affective experience. Since meaning can only be assigned to an object, situation or event by a person, it follows that both denotative and connotative components of meaning will be present, depending on the degree of involvement and the quality of the experience. Where there is personal involvement, the experience will have some or other quality or shade of quality which will endow the relation that is formed with a connotative dimension. Meticulous observations by brain surgeons like Wilder Penfield have yielded much information on the storage of experience which would not otherwise have been available. We cannot give a detailed discussion of the findings of Penfield (1963, p. 679-93). By means of micro-electrodes that stimulate the brain electrically he managed to map the affected brain area (in cases of epilepsy for example) before operating to remove these areas. Since nothing but local anaesthetics had been used, the patients could report on their experiences during stimulation. Many examples are cited of patients reliving certain experiences when given areas of the cortex were stimulated (such as hearing a symphony, looking in at a dance hall, etc.) which they had experienced before. These experiences were more than memories. In most cases patients could not recall the rest of the experience once the electric stimulation had stopped. He concludes: "... that past experience, when it is recalled electrically, seems to be complete including all the things of which an individual was aware at the time." *It would appear that the whole stream of consciousness is registered in the brain in its meaningfulness and intensity*. Many literal experiences are in the sub-conscious mind in that the person cannot recall them to memory. He also thinks that a particular area of the cortex plays a role in the sub-conscious interpretation of present experiences and in making available the complete report on previous experiences.

It follows from these results that

- (a) the living experiences of a person are stored in the brain;
- (b) he had paid attention to these experiences;
- (c) what is registered is an integration of the meaning which he had assigned to the situation and the affective experience of it;
- (d) there seems to be a mechanism in the cortex which sub-consciously interprets present experience in terms of past (forgotten) experience

and in such a manner that it seems to the person as if the full meaning is in the present experience;

- (e) affective experience has a necessary function in the whole of significance attribution because the actual experience is registered in the brain as a Gestalt and this experience serves as a source of reference for the interpretation and assignment of meaning to new experiences.

The experiences of the infant range from comfort to dis-comfort, from calm to tension. It has a clear affective tone which manifests itself in crying, sleeping, prattling noises, etc. This initial affective experience as a form of significance attribution is the beginning of cognition. The child's first experience of meaning is what people and things do to him and with him. He remembers and anticipates these experiences. He also discovers meaning in what he can do with people and things. Through educational support the child learns that meanings are not only vivid experiences; they develop a denotative character. The experience becomes loaded with feeling.

Awareness and experience are more than cognitive activities: They involve the whole range of dynamic interrelationships between a person and his world. Illustrations: (i) to see, smell or imagine a flower; (ii) to feel pain or be listless, sad or cheerful. The first activity is cognitive. It refers to the flower as an object, a 'Gegenstand' (Kuyper 1963, p. 206); it forms the other pole of a relationship and the seeing, smelling or imagining defines the nature of the relationship.

In the second case – experiencing pain, sadness or gaiety – there is no object to be understood or action to be directed. It is a condition one submits to, an experience, a description of the quality of the relationship. It concerns the feelings. The condition is understood as well as emotionally experienced, but the two aspects are distinct. In saying 'I am glad, or sad' one indicates that one understands the experience; no matter how slight the time lapse, the experience precedes any possible reflection on it. We must distinguish between these two modes of awareness. What I know, other may know too; but what I feel and therefore experience is unique to me. The quality of educational help determines what a child experiences subjectively. It varies from the pleasure of being praised to the pain of being humiliated, insulted or rejected.

Every aspect of the child's experience can be either positive or negative. This applies to physical perceptions like pain or physical vigour, the quality of social relations (e.g. enjoyment) relations with objects or ideas (e.g. frustration, failure or success), and spiritual anguish or the joy of redemption. Muller (Meyer 1967, p. 91) describes a patient's subjective experiences in terms of mood and of feelings such as excitement, fury, affront, irritation, dependence, unhappiness or contentment,

Because a person is totally involved in the assignment of meaning, he experiences success, frustration, etc. and these determine the quality of the meaning assigned.

Personal subjective experience reflects my evaluation of the situation. Evaluations can be broadly classified as pleasant or unpleasant.

Essential components of the category of subjective experience

- (a) Experience determines the *quality* of relationships.
- (b) Experience is *emotional* and indicates that a situation is evaluated in terms of varying degrees of *pleasantness or unpleasantness*.
- (c) Experience, by determining the quality of relationships, stresses the *uniqueness* of each person's relations.
- (d) Experiences and more particularly their intensity – determine the *clarity and stability* of the meanings assigned by a person.
- (e) Experience inhibits or *incites a person's involvement* in every attribution of meaning.
- (f) Experience is a meaningful event involving the *total person*. He experiences certain feelings and also *knows* that he experiences them.
- (g) Educational help is not always the sole determinant of meaning, but an educator's praise or disapproval determines the positive or negative *intensity* of the subjective experience.

1.3.5 Self-actualisation

We are concerned here with the child's self-actualisation as a person, i.e. helping him to develop to the 'fullest height that the human species can stand up to or that the particular individual can come to (that is) helping the person to become the best that he is able to become' (Maslow 1971, p. 169).

The satisfaction of physiological and psychological needs is the driving force behind the urge to actualise one's potential (Eson 1972, p. 24). There is no question of perfectionism: the self-actualiser is human in the fullest sense of that word. He is totally involved with life, experiences intense pleasure and pain – not merely his own but also that of his associates. The authentic self-actualiser accepts himself to a degree that precludes guilt, anxiety, shame and aggression (Brennicke and Amig 1971, pp. 257-259). Since no energy is side-tracked into anxiety or other morbid defence mechanisms, his attention is focused on objective problems and situations. Seeing himself realistically, he accepts himself, and his self-esteem is not affected by his awareness of specific limitations.

Self-actualisation implies a person's deliberate efforts to realise all his latent potential. *This includes every area of manual skill, intellectual capacity, emotional experience and moral awareness.* The question is: How does a person become what he is or what he is capable of being? It soon becomes obvious that, once physiological and psychological needs have been satisfied, a person develops through his involvement in an activity that is meaningful to him. There is no question of 'a neurotic need for perfection' (Horney 1947, p. 223); as Maslow (1971, p. 43) says: 'Self-actualizing people are, without one single exception, involved in a cause outside their own skin, in something outside of themselves'. Such a cause must not only be important to them; they must love it. It must be a vocation rather than a mere profession.

As Frankl (1964, p. 113) says: 'Self-actualization cannot be attained if it is made an end in itself', and (Frankl 1969, p. 116): 'Self-actualization is and must remain an effect, namely the effect of meaning fulfilment. Only to the extent to which man fulfils a meaning out there in the world, does he fulfil himself.' No-one actualises himself except to the extent to which he devotes himself to a life-work that is meaningful to him, and self-actualisation is only a by-product of self-transcendence.

The child who forgets himself in his involvement with learning, reading, writing or solving a cognitive problem, or sympathising with a friend in trouble, is engaged in self-transcendence. Transcendence – rising above or beyond (Binswanger 1958, p. 193: *Überstieg*) is an open possibility for human beings (Oberholzer 1968, Gordon 1959); or as Goldstein (1934) puts it, the ability to formulate abstractions, to use symbols and to orient oneself beyond the immediate limits of geometrical space and chronometrical time. Only man can lie, says Sartre, and this in itself is an indication of self-transcendence.

Rollo May (1958, p. 74) says: 'Self-consciousness implies self-transcendence. The one has no reality without the other. It will have become apparent . . . that the capacity to transcend the immediate situation uniquely presupposes *Eigenwelt* – 'the self in relation to itself', 'the self knowing itself' – that is, the mode of behavior in which a person sees himself as subject and object at once.'

So if the self-actualising person wants to realise future possibilities, he must transcend himself or rise above the apparent limitations of time and space, physical and mental abilities. This presupposes a realistic self-concept incorporating objective self-knowledge and evaluation of the self identity.

Roberts (1976, pp. 374-477) asks: 'How can an adult help and support a child in realising his potential?' We agree with Pikunas (1969, p. 287) that the extrinsic conditions are the availability to the child of:

(a) human models to identify with;

- (b) principles and ideals to choose from;
- (c) an ordered system of values in his subculture on which he can base a philosophy of life.

More intrinsically, Maslow stresses that primary needs must be met before self-actualisation can take place: physiological needs, security, love, acceptance and esteem. It is significant that self-actualisation is not merely the product or result of an activity: it lies in involvement with that activity and his experiencing of that involvement. Benson (1974, p. 354) describes it as 'the ability to enjoy the experience of being'. Because of his varied interests, demanding orientation in a number of fields, the self-actualiser is not easily bored. The attribution of meaning is always at the centre: as Benson (1974, p. 354) puts it: '... especially in self-actualized people, the deprivation of the cognitive needs can lead to serious difficulties'. After these basic needs have been met self-actualisation may emerge. Here are a few of the characteristics of self-actualisation:

- (a) A self-actualiser must be capable of understanding, of assigning meaning and of progressive orientation.
- (b) He is intensely involved in some task or cause (outside himself).
- (c) He experiences his meaningful activity to an intense degree.

Maslow gives this summary of the actualisation of potential (Benson 1974, p. 351): '... the self-actualized person is fulfilling his potentialities in the act itself'. But this cannot be achieved without educational help. Mature adulthood, the ultimate goal of the child's becoming cannot be attained unless the child realises his potential.

We therefore recognise self-actualisation as guided actualisation as an empirical-educational category.

1.3.6 Formation of self-identity and self-concept

1.3.6.1. *Self-identity*

The dictum of Langeveld (1957), that a child wants to be somebody, drew a good deal of attention – especially from educationists – because of its pedagogical relevance. Many other writers (Jersild, Erikson, Sullivan, etc.) said the same thing in different words.

To be a child is to be somebody, to form a self-identity; to have satisfactory answers to the question *who am I?* In the words of Sullivan (1953, p. 171): 'I believe that a human being without a self-system is beyond imagination. Erikson, who was particularly interested in the identity concept and its implications, explains it like this. Self-identity is

congruent with an integrated whole made up of (i) the person's conceptions of himself, (ii) the stability and continuity of the attributes by which he knows himself, and (iii) the agreement between the person's self-conceptions and the conceptions held of him by people he esteems.

To form an image of himself he has to dissociate the *I* from the *non-I*, the mine for the *not-mine*. This initial consciousness of the self as a unique identity is accompanied by a self-evaluation, e.g. "I am good", "I am naughty". From an initial vague and diffuse image of himself a new image is formed which increases in clarity and comprises categorical terms (boy/girl) as well as attributive values (pretty/ugly, good/bad, thin/fat). The child arrives at a comprehensive set of self-concepts. Some may be favourable and others not so favourable.

The child has to form these concepts of himself in his association with others, especially his educators. This integrated whole of self-concepts, this identity, must be stable and continuous in such a way that the individual may know himself and that others may know him.

Identification takes place when a person perceives himself in accordance with others and acts accordingly (Murphy 1966). The infant does not first establish a self-identity before beginning to identify himself with others; it is while identifying himself with others that he forms a self-identity (Gordon 1959). He perceives himself as if he resembled a variety of other persons; he adopts certain actions, tests them and selects a role to which he assigns the most comprehensive meaning and incorporates it into his self-image. Erikson (Gordon 1968, p. 204) says: "Identity formation finally begins, where the usefulness of identification ends." This new configuration of behavioural modes and roles which the child displays is accepted by the community as peculiarly his. And as such he is accepted as a new individual. The formation of a self-identity is a life-long task. The individual and his society are largely unaware of this process. It is accompanied by growth and development: as the child becomes capable of doing more things, his self-concepts are changed and extended. Self-identity develops and becomes quite stable during adolescence. The important point is this: with educational support an own identity gradually takes shape: it is accepted by others and a certain dignity is assigned to it. When this happens the person becomes someone.

1.3.6.2 *The self-concept*

Once a person becomes aware of the self, conceptions of an own identity arise. He gets to know himself. His self-conceptions concern the body as a concrete object and also his ideas about his physical and psychological self.

The self-identity comprises the answers, in terms of categories as well as attributes, to the question *who am I? It may emerge as I am a boy, Martin Smith, a Std 6 scholar, fair athlete, lazy at school work, untidy*, etc. In his opinion, these properties are as clearly recognisable to others as to himself. Note that this identity is established through interaction with his phenomenal world.

It is through involvement with his world that his actions or activities so largely define his self-image. In the very young child, identity often consists of activity. When a little girl puts on mother's shoes, she is mother; the little boy wearing his father's hat is father. He is so involved in feelings of fear, anger or pleasure that he totally becomes what he experiences. He is not acting – not being someone else at the same time. In his imagination he really sees himself as a pilot, engine-driver or policeman, he completely identifies himself with this role and acts accordingly.

These identifications may be temporary, but they illustrate a fact: *to be a given someone*, it is usually necessary *to do a given something*. The reverse is also true: to do a given something, one usually has to be a given someone. To see oneself as a cricketer, one has to play cricket. One has to *perform*, be involved in, the action to which meaning is being assigned. In this way one experiences one's identity as a do-er, as a cricketer. (How good a cricketer is not relevant, though it may become relevant later on.)

We see, then, that identity implies action and action implies identity. True self-actualisation requires free, realistic interaction between being and doing. To be someone means being involved in a typical, relevant something in such a way as to totally experience it.

Rollo May (Canfield and Wells 1976, p. 203) stresses the link between action and identity: 'It is in intentionality and will that the human being experiences his identity. "I" is the I of "I can". Descartes was wrong when he wrote, "I think therefore I am", for identity does not come out of thinking as such, and certainly not out of intellectualization . . . it jumps from thought to identity, when what actually occurs is the intermediate variable of "I can". What happens in human experiences is "I conceive – I can – I will – I am". The "I can" and "I will" are the essential experiences of identity.'

One's involvement in what one wants to do and can do, and one's experience of the actual doing, are factors in establishing one's identity.

Although action is an intrinsic part of the self-concept, it is a distinct component of the identity. This applies equally to the infant toddling or walking, the child reading, reciting or doing algebra or the youth playing springbok cricket. Of course, these actions call forth reactions from others: they may encourage, discourage or ignore them. This heightens

the meaning of the action to the person in the process of forming his identity. In the end, one does not rely solely on the words, behaviour or estimation of others for one's self-image: one anticipates the judgement of people whom one esteems, and this gives rise to the subjective standards by which one evaluates one's actions and in fact one's total identity. One's sex or name, height or weight, prowess at reading, prose-writing or maths, are evaluated as good or bad against one's own subjective standards. This self-evaluation is a basic component of self-perception. For the person himself, it is naked reality. This is how he sees himself. Self-perceptions form the basis of self-esteem, which for the majority of people is the most crucial question of all (Coopersmith 1967). The primary source of self-esteem is the esteem of others (Fitts et al. 1971). The Christian sees himself as God's creation and therefore of value, and this enables him to accept and respect himself (Wyngaarden 1963).

A self-concept comprises three mutually dependent components: identity, action and self-esteem. The self-concept is always highly meaningful to the person concerned, whether it is based on high or on low self-esteem. This is the self-image a person will vigorously defend if it is attacked or denigrated; '... this organization of ... concepts of the self (self concept) is for any individual the very core of personality. The self-concept is the self "no matter what" (Combs and Snygg 1959, p. 127). This self-identity is never a neutral image. In the light of all this, I consider that the dictum of Langeveld (1957) that 'the child wants to be somebody' must be strongly qualified to be acceptable.

It is not a neutral identity – 'somebody' as against 'nobody'. The child aspires to 'a definite identity' (Adams 1968, p. 79); 'a meaningful identity' (Tonssing in Rogers 1972, p. 536). I would go further: the child aspires to an identity that will be accepted and esteemed by himself and by others. This implies that the identity or image will be evaluated against subjective standards formed in relations with other people. This evaluated self-image becomes the self-concept, which may be defined as follows: *The self-concept refers to a configuration of convictions concerning oneself and attitudes toward oneself that is dynamic and of which one normally is aware or may become aware (Vrey 1974, p. 95). Binswanger and others called this self-concept the Eigenwelt, as May (1958, p. 64) remarks: "Eigenwelt is the self in relation to itself or the self knowing itself."*

The self-concept is the focal point of relationships in the life-world. Yamamoto (1972) says the self-concept may be likened to a map of a region, the self. Each personality trait is revealed in terms of a person's self-concept. If personality is the "radiant force" emitted from the core of the person, the self-concept is the lens focusing this force on personality traits (Vrey 1974, p. 363). A life pattern is the expression of a self-concept as May (1958, p. 64) says: '... if Eigenwelt is omitted, interpersonal relations tend to become

hollow and sterile . . . and without Eigenwelt love lacks power and the capacity to fructify itself.'

The formation of a self-concept can therefore be seen as a pedagogical category. No child can conceivably become an adult unless he has a definite self-image or self-concept.

1.3.7 Relationship between the categories attribution of meaning, involvement, experience, self-actualisation and self-concept

These five categories are distinct but not separate. The child as a person is always totally involved in each act of self-actualisation, whether physical or psychological, and in each function, whether cognitive, affective or conative.

The infant has to orient himself to the world. Becoming and development towards adulthood are inconceivable without continual orientation.

Orientation begins when meaning (no matter how primitive) is assigned to his immediate surroundings. This gives rise to anchorage points, beacons of meaning, orientation points, essential to exploration and the establishment of a life-world. The meaning of each anchorage point (his own body, his mother, objects) is charged with feeling and with value. He assigns meaning to the degree he experiences, his involvement with the person or object e.g. enjoyment, comfort, satisfaction, security, care, etc. The greater the involvement, the more intense the experience, and the more efficiently will the processes of differentiation, integration, recognition – assignment of meaning, in fact – be directed. The capacity for cognition mushrooms; as language becomes functional, the attribution of meaning relies less and less on experience. Meaning becomes increasingly denotative, though the connotative dimension remains.

In the child's self-actualisation and his building of a positive self-concept, the interdependent and interacting factors of meaning attribution, involvement and experience can always be distinguished. The child is always deliberately directed towards whatever he wants to assign meaning to (or already understands). This demands a visible or subjective involvement, and it is qualified by the quality of the experience, which also shapes his self-concept.

The assignment of meaning demands involvement, and the quality of meaning is determined by experience. As meaning increases, involvement intensifies and experience is clarified: in its turn, meaning is intensified and becomes more finely differentiated.

Educational help is essential. It uncovers meaning, ensures effective involvement; or it may consist of positive support directed at giving the

child an experience of success, or at explanatory teaching or meaningful learning – or perhaps a withdrawal of personal support to allow the norm to become operative. The same five categories remain valid.

The empirical educationist is guided by these categories. He may therefore utilise significance attribution, involvement, experience self-actualisation and self-concept formation as empirical educational criteria in the study of the child.

1.3.8 Empirical-educational criteria

We need pedagogical criteria to judge educational events. Such criteria are designed to promote the realisation of the educational act. They are intended primarily for the educator, to enable him to gauge the success of his activities. It is a pedagogical imperative to guide the child towards understanding and involvement, so that his experiences may support a positive self-concept that will promote self-actualisation.

As we have seen, the basic empirical educational criteria are:

- (a) Attribution of meaning
- (b) Involvement
- (c) Experience
- (d) Self-actualisation
- (e) Positive self-concept

When these criteria are satisfied, education takes place.

1.3.9 Summary

The distinction between understanding as assignment of meaning and experience is not a sharp one, but we agree with Kuypers (1963, p. 207) that it is a significant one and that it is an error to interpret 'experience' so broadly that it includes 'understanding', as some psychologists do. For knowing, the first requirement is understanding (a cognitive process); for feeling and also for willing, experience is primary. And so we shall distinguish between *assigning meaning* and *experiencing*, even though we cannot separate them.

The attribution of meaning, and the accompanying phenomena of involvement and experience, are the criteria by which we judge the child's participation in his own development and in the learning process. On this theme Kuypers remarks (1963, p. 139) that where the self-involvement is stronger and more intimate, the quality of knowing is stronger and more direct. Something that makes a vivid impression becomes a more intimate part of my psychological content than something that is briefly noted. It seems, then, that in studying child development and

learning within the context of empirical education – *significance attribution, involvement, experience, self-actualisation and a self-concept* provide the proper criteria for judging whether or not particular actions may be qualified as psycho-pedagogic.

There are TWO IMPERATIVES for the practice of empirical education. The first is that action in this field must be *pedagogic*. It will therefore be necessary to ensure that our study of the psychic and social phenomena related to child development and the learning process has a steady pedagogic perspective. Constant evaluation in terms of the above-mentioned criteria will enable us to do this. The second imperative is that we should construct an *empirical theory* (which, in view of the above, now becomes a pedagogic-empirical theory) on a factual basis. An empirical theory, whether it relates (for example) to the development of the primary school child or to the attainment of insight or to the actualisation of the results of learning, must be constructed on a basis of facts. Theories and hypotheses concerning any such construct must be developed and elaborated and verified by empirical methods such as observation and experiment, and must then be evaluated pedagogically.

With this background information in mind, it should be clear that the basic function of this pedagogic discipline is the study of the child as he learns and develops within his milieu and as he, with educational assistance, assigns meaning and thus structure to the world in which he lives.

Introduction to child development

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CHAPTER 2

Introduction to child development

2.1 THEORIES OF CHILD DEVELOPMENT (a brief introductory orientation)

There are several well-supported theories concerning the development of the child from birth to adulthood, each of them with its own perspective and each described in detail in accordance with this perspective. We shall mention some of these theories without going into detail about any of them. Baldwin (1967) offers a clear account of the relevant theories with a criticism of each. *Kurt Lewin* applies his topological field approach to his description of child development. He advocates a totality approach. The behaviour of the child within his life-space at any given time is the result of all the psychological forces affecting him. The strength of the valency diminishes in proportion to increased distance from the valency area.

Sigmund Freud emphasised the sub-conscious and unconscious regions of the mind together with the libidinous drives. The developmental phases into which he divided the period of childhood accord with this emphasis. *Erik Erikson*, (Maier, 1965, p. 31) a neo-Freudian, accepts (Freud's division, and characterises the five developmental phases as follows:

- (a) awareness of basic trust;
- (b) awareness of autonomy;
- (c) awareness of initiative;
- (d) awareness of control and proficiency;
- (e) awareness of a conscious personal identity.

In his study of child development he identifies these phases as ways in which the growing child expresses his emotional or libidinous drives. In his view, development is a balance between a maturation process and an educational process.

Jean Piaget, (Maier, 1965, p. 91) biologist, philosopher and psychologist, devised a cognitive, conflict-free theory of child development. On the basis of his empirical research, he came to the conclusion that fixed and regular patterns of cognitive development occur in every child. With these patterns in mind, he described certain fixed developmental phases through which every child must pass and in accordance with which the extent and nature of his understanding can be predicted throughout the developmental period. He mentions three main phases: the sensory-motor phase (0–2 years), the pre-conceptual phase (2–4 years), the intuitive phase (4–7 years), the concrete operational phase (7–11/12 years) and the phase of conceptual thought (11/12 years+).

The *learning-theory* (Maier, 1965, p. 155) model of child development is based on the consolidation of stimuli and reactions. Watson, Hull, Dollard, Sears and Skinner have all made contributions to this approach, and in very recent times Walters and Bandura have applied it with special emphasis on the development of the child in the social context. The theory was inspired by psycho-analysis and is also based on S-R conditioning.

Heinz Werner, a German who emigrated to America during the Hitler regime, also adopts a totality approach to child development (comparable to that of the Gestaltists). All child development is at first relatively global and then becomes a gradual process of differentiation, discrimination, and hierarchical integration and analysis.

At this stage we shall not attempt to study these theories in detail. Almost all of them have made significant contributions to a better understanding of the growing child. Some of the thought-structures involved cannot be understood outside the context of the whole theory. Others are more general, and are thus especially significant with regard to our pedagogic approach to child development. But we must guard against the danger of using irreconcilable concepts to support or complement one another.

We cannot subscribe to a rigid phaseology. We shall arrive at some understanding of the growing child if we adopt the practical division into pre-school, primary-school and secondary-school stages, and use these periods as working categories. During these periods children live for a considerable part of the school day in corresponding milieus. This makes comparison possible, despite numerous collective and individual differences.

The small child learns to know the world that fosters him. At first his knowledge is mainly intuitive, but it becomes more conceptual as his powers of differentiation improve. And through significance attribution he creates meaningful relationships within his life-space. The small baby needs his mother. She is therefore the first person with whom he forms a

meaningful relationship. In the course of time more and more of the people among whom he lives become meaningful to the child. He also becomes aware of objects – such as his bottle, clothes, cot, etc. – which are important to him. The expanding physical-cultural world of values, attitudes and ideas is a broad category within which the growing child forms significant relationships. The small child also learns about his own body. The distinction between *me* and *not-me*, I and *not-I* culminates in an image of the body and a concept of the self which represent the relationship that the child has formed with himself. Most of these relationships with the self, with other people, and with objects and ideas are formed under the guidance and with the support of educating adults. If we are to understand the child in any one of the developmental periods mentioned above, it will be necessary to know something about the nature of these relationships and how they are organised.

The complexity of child behaviour can be better understood if certain aspects of development are studied separately. Language fulfils a special function with regard to the child's development. It would therefore be profitable to study linguistic development in this connection. The same applies to the development of the cognitive functions, thought, and the child's emotional life. Such studies concentrate specific attention upon intelligence.

In the following study of child development we shall adopt a view which concurs to some extent with the approach of I.J. Gordon. The child's self (or ego or I) is the theme (factor) that integrates all the factors influencing his development or genesis or learning. Some of these factors lie within the self and others are external to it, but they are all integrated by the self.

When we study child development from the pedagogic point of view, we do so in the light of or against the background of the pedagogic categories discussed in Fundamental Pedagogics. If we are to lead the child towards what he ought to be, *we must study him as he is*. The distinctions we are about to draw will enable us to come to grips with the child progressing towards adulthood.

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CHAPTER 3

Objectives of becoming

3.1 INTRODUCTION

Our focus is the CHILD who is maturing, or actualising himself, with educational help. The question we are trying to answer is this: what does it mean to the child when he grows physically – is picked for the first team – fails mathematics – is accepted or rejected by his peer group, etc.? If self-actualisation or self-enhancement is a continuous process accompanied by greater or lesser success, what are the specific objectives along the way? These objectives are always dynamic. They are specific (tying shoe-laces, writing, throwing or catching a ball, solving a specific cognitive problem); it is not a question of realising static possibilities. These aspects are components of larger structures that are meaningful only in terms of a much broader dynamic whole. We may term this Gestalt ‘self-actualisation’.

Since the child is always relating to people, objects, ideas and himself – since he in fact initiates these relations – we can distinguish the following objectives in this regard:

- *A world of meaning* as the totality of meanings formulated by the child during his orientation.
- *An adequate self*. As the child acquires increasing control of his world, becomes more and more capable of knowing and acting, he experiences the fact that it is he himself who is adequate.
- *Belonging* – the child’s positive relationship with other people. Acceptance in friendship and love, so that a real we-relationship is experienced, gives him a secure basis for further exploration.

These part-objectives can be distinguished but not separated. Promoting the one promotes the others: it is the same child who forms relations *so that he* can understand and orient himself better, *so that he* can be more adequate and experience his adequate self and *so that he* can

become a respected member of a group – whether it comprises two members, twenty or the whole sub-culture which he values.

3.2 WORLD OF MEANING

The world of meaning is not a static objective. For each child it is an expanding significance which he himself must explore. His life-world contains things to which he is not perfectly oriented; new ideas, persons and objects are always appearing, and meaning has to be assigned to them. Growing experience and a more effective cognitive structure make it possible, within the expanding ambience of meaning, to deal with these challenges more speedily. Not only do the horizons expand: the quality of meaning is increasingly enhanced by a deeper involvement with partly-known things. The child – and the adult, for that matter – is always being confronted with obstacles and problems. Finding himself in an unfamiliar situation, he is confused because he is not yet oriented to the situation or its components. Each new situation is a new challenge to attribute meaning. His relations with people, objects, ideas and himself acquire a new and enhanced quality as his involvement with them deepens.

For the assignment of meaning, educational help is essential. An educator or teacher must explain the necessary meanings at the child's level of comprehension. As Bruner (1966, p. 2) says: '... any subject can be taught effectively in some intellectually honest form to any child at any stage of development. Shulman (Clarizio et al. 1973, p. 221) explains that Bruner not only wants the material explained at the child's level: he also wants the child involved with it. The assignment of meaning brings about a richer life-world of meaningful relationships. This aim, however dynamic, may be distinguished as an essential objective for development. The Gestalt of meanings discovered and assigned by the child is of primary importance. Hamachek (1975, p. 24) says: '... man is influenced and guided by the personal meanings he attaches to his experiences'. This is a serious matter, a challenge to an educator to guide and support the child in this endeavour.

3.3 ADEQUATE SELF

The child starts off weak, ignorant and completely inadequate. All he has is the potential, and the will, to overcome obstacles and meet challenges. He has almost everything to learn – how to observe and recognise, how to grip and handle objects, how to coordinate eye with hand,

hand with hand and hand with mouth. To communicate, he has to learn a language from scratch. Later on he has to learn to read and write, to solve mathematical problems and to make deductions. One is struck by the child's phenomenal capacity for learning – how soon he recognises his mother's voice, feeds and dresses himself, walks and talks. This almost insatiable need to be adequate must be fed with experiences of success. All the child's actions are intentional '... and, to the degree that they're successful, they can leave a child with a happy sense of efficiency, of being good at something' (Hamachek 1975, p. 57). The experience of success is the beginning of self-esteem.

As the child experiences success, a sense of confidence and efficiency is born. The sense of adequacy motivates the child to explore and to take risks. The experience of adequacy heightens self-esteem and self-acceptance and helps to establish a positive self-concept.

The self-concept is enhanced by every intentional assignment of meaning and every achievement of a skill. The research of Morse (1963, p. 50) in the U.S.A. clearly shows that this experience of adequacy is not natural or inevitable. He found that the statement 'I feel pretty sure of myself' drew the following response from scholars: 12% of the third graders and 34% of the eleventh graders say "unlike me".

Adequacy is experienced when the child realises this is me – this self-identity – acting competently, running fast, getting high marks and being praised and applauded by others. A healthy self-esteem does not demand outstanding success in every field. The proportion of successes to failures will vary, but we may be sure that the child will show greater confidence in fields where he usually succeeds than in those where he succeeds less often. The attitude of an educator (parent or teacher) may also lead him to interpret failures, not as 'I have made a mistake' but as 'I am a failure'. This destroys the self-esteem and self-acceptance essential to an adequate self. The danger is that the child may know his own identity, i.e. that he is somebody, but may experience himself as inadequate or a person of no account.

It is obvious that an educator must help a child establish an adequate self. It is the respected educator whose praise the child values. Consistent acceptance from people like these support him in maintaining his identity and developing into an adequate self.

3.4 BELONGING

Education demonstrates that each child depends on specific people for his survival, growth and maturity.

Amongst these people are his parents and teachers and also other

family members, relatives and members of peer groups – the people Sullivan calls ‘significant others’. The child needs to experience belonging to these people. Belonging is characterised by love (mother for child) and friendship (in a peer group). Researchers like René Spitz (1945, 1946) have shown that children deprived of love lose even the will to live.

For the child there is no neutral position in his relationship with ‘significant others’ (especially parents). If they do not love and accept him, he experiences rejection. Since he fears this more than anything else, a great deal of anxiety results when he does not experience enough security – including emotional security – and acceptance. This sense of belonging is essential if he is to maintain his identity: it provides the secure base from which he can explore and achieve self-realisation. The secondary school child, who is embarking on new levels of self-realisation, needs a new base also. He will risk domestic peace and quiet for the sake of acceptance from his peer group. Self-maintenance in an accepting peer group frees him to tackle new obstacles to self-actualisation. The child who is not accepted by the people and groups he values becomes so engrossed in self-defence that he has little attention and energy to spare for current problems. He therefore finds it difficult to develop an adequate self.

It is up to the educator to give the child a sense of belonging and of increasing emotional security. This attitude determines the quality of the relationship, not only during education but in everyday life.

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CHAPTER 4

The pre-school child

4.1 INTRODUCTION

It is impossible to classify a child's development into generally accepted periods or phases; the criteria used by various authorities differ too much. Besides, children, too, differ so much that no complete positive correlation can be made between chronological age and physical or psychological maturity. Socio-economic conditions, and the educational differences these imply, are a further reason why no universal classification or phaseology is possible.

As we have seen, a broad classification into primary school and secondary school phases has been found practicable. The preceding and subsequent phases – pre-school and post-school – are indicated where necessary.

The pre-school period can also be described as the period between the ages of two and six. The child's development on all fronts is phenomenal. He very soon succeeds in holding his bottle, following moving objects with his eyes, recognising his mother's face and voice, etc. – all indications of psychological and motor development. Deliberate communication, characterised by *smiling and 'making sounds'*, starts at about two months and becomes more effective as he learns words and eventually speaks fluently.

At the age of two a normal, healthy child can walk and talk effectively. His involvement with his world is very clear at this period. He is confronted by a multitude of problems and challenges, so that his exploration by manipulation becomes a threat to the adult. The home must be made *child-proof*. The pre-schooler walks, runs, rolls. He gazes at his world, surrenders himself to it. (On our television screens during April-December 1978 Heidi gave us an incomparable demonstration of wonder and involvement.) This wonder at and involvement in all that he

experiences through his five senses are the child's route to understanding, establishing relations and structuring a known life-world. He grows physically, establishes better communication with people, and his psychological abilities during this period (2-6 years) make possible an ever greater intentionality. Each child grows up in a given cultural ambience, and he assigns meaning within this ambience. All these relations are achieved with educational help. Our next step will therefore be to study the physical, psychological, social and cultural bases of a child's development to adulthood. This chapter will also deal with the relations a child forms and their significance for self-actualisation – more particularly the significance of play and of school-readiness as optimal developmental task.

4.2 BASES OF RELATIONSHIPS WHICH THE CHILD FORMS

A child is always totally involved in forming relations. These are formed between the child as one pole and the referent as the other. To understand the development of relations we must take a look at the foundations on which they are built.

4.2.1 The physical basis

Growth takes place in the child's skeleton, muscles and nervous system. Cartilage becomes bone; the bone hardens. The muscular system changes. Up to the age of four, muscular growth more or less keeps pace with the growth of the body as a whole; but after that the muscles grow much faster, so that some 75 per cent of the five-year-old's weight consists of musculature (Mussen et al. 1969, p. 283). At this time the major muscles develop more rapidly than the smaller ones, so that the child is better at general movements than at fine coordination. Development of the neuromuscular system forms the basis of psychomotor skills and sets the pace for manual skills. The four-year-old can run, jump and even skip fairly well. He has enough spatial orientation and control of his movements to draw figures, but he is more successful at drawing a circle or a cross than a star or diamond. The five-year-old has better muscular control and can jump or skip with fluent motions. Usually, muscular coordination is confined to the major muscles: he can run, climb, balance, push and pull. Better coordination is needed to throw a ball properly, and this is usually not achieved until six years of age; but individual differences are considerable.

Physiological changes enhance the child's powers of endurance. He

becomes capable of more strenuous activities. His heart-beat slows down and stabilises; blood pressure slowly rises.

The nervous system grows rapidly during these years. At six years of age, the mass of the child's brain is ninety per cent of what it will be in adulthood (Mussen et al. 1969, p. 283). Myelination of the nervous tissue in the brain is usually complete by the age of six.

The child now has a better grasp on life and becomes more resistant to diseases, but unless immunised he is still very susceptible to infectious diseases.

This physical state and psychomotor competence determine the quality of relationships demanding physical skill.

4.2.2 The psychological basis

Since the child's psychological capacity increases with maturity, we need to make a broad assessment of what it is in early childhood. It is this that enables him to form relationships. This capacity matures, not only by development but by effective interrelationships with the world in which he grows up. We need to distinguish cognitive, affective and conative powers and also verbal articulacy. The child learns language and develops psychologically in relation to other people, and we are explicitly concerned with the level of these abilities in the presence of such interaction.

4.2.2.1 Cognitive powers

Researchers, especially Piaget, have tried to characterise the functioning of the child's cognitive powers, and we shall be drawing on these results. The period two to six years of age is called the period of pre-conceptual cognitive functioning. The transition from the preceding period to this one, and from this to the next, is a gradual one and individual differences are always operative. Bearing this in mind, we may distinguish the following characteristics:

- (a) The child is still mainly concerned with his *immediate surroundings*. He has difficulty in judging or comparing objectives and situations that are remote in time and space.
- (b) The child's thought is largely linked with *action*: language is slow to become operative. As his command of language increases, language symbols as well as actions become a medium for thought.
- (c) The child probably thinks in *images that represent specific people, objects or situations*. As a result, the child has difficulty in classifying things. He sees his playmates as individuals; it takes time before he

can speak of boys and girls. Luria and Yudovich (1966) found that an increase in functional verbal articulation also helps the child with activities usually seen as non-verbal, for instance jigsaw puzzles.

- (d) Because of this way of formulating things, we could call the child's mode of thinking *transductive*. He thinks from the specific to the specific. He is incapable of generalising by inductive thinking. This transductive thinking is clearly in evidence when a child relates everyday events or explains or elaborates something. An example: a child was given a container with wooden shapes consisting of cubes, balls and prisms. Half of these were red and the other half blue. The child was asked to take out four blocks that looked alike. This specific child produced a red cube, a red ball, a blue ball and a blue prism. The argument was that numbers one and two had the same colour, two and three the same shape and three and four the same colour again. The child could not isolate a universal characteristic. Since the child cannot arrive at an abstract concept by inductive thinking, he uses transductive thinking to form preconcepts that do constitute a general idea but are linked to perceptual characteristics.
- (e) *The child's observation and thought are strongly centred*. Observation is centred on a single characteristic, area or sound. If a cylinder half-filled with water is shown to children of this age and then emptied into a wide bowl, they will be inclined to think that the bowl contains less water than the cylinder. One reason for this is that the child's attention is centred on one characteristic – the height of the water level.
- (f) *The child has difficulty in attending to more than one relation at a time* and makes no effort to be consistent in his opinions. He may assert today that a lake is a hollow filled from a tap, tomorrow that it is filled by rain and the next day, once again, that it is filled from a tap.
- (g) *There is little logic or direction in a child's thought*. He struggles to distinguish between cause and effect. There is the child who said, 'I feel sick because I didn't go to nursery school.'
- (h) *The child's thought is strongly animistic*: lifeless objects are readily personified. He assumes that an object feels, wills and acts like a human being, and so one gets pronouncements like these: 'The chair bumped me'; 'The tree got hurt'; 'My doll is crying'.
- (i) *The child cannot mentally compare different relations*. A child was asked: 'How many brothers have you got?' He replied, 'Two – Alan and Mike.' 'And how many brothers does Alan have?' 'One'. He tends to omit himself. It is difficult to see that if Alan is his brother, he is also Alan's brother. He has difficulty with all interrelationships such as bigger and smaller, left and right, north and south, friend and

enemy. Such distinctions are difficult because his thoughts are centred: only one person or characteristic at a time can serve as a criterion.

We can understand the relations a child forms and how he forms them only if we bear all these points in mind.

4.2.2.2 *Affective powers*

The small child experiences emotions such as love, fear, anxiety, anger, jealousy, grief, joy, etc. The intensity of these emotions will of necessity influence the forming of relations. A child's emotionality follows a characteristic pattern. *The child has strong emotional ties with his environment.* so that situations are affectively experienced. Temper tantrums reach a climax between the ages of two and four: after that anger begins to be expressed in a more mature way.

But the level of emotionality remains high, and *the way he expresses emotions like love, pleasure, frustration or anxiety shows how intensely they are experienced.*

Educational help is essential if the child is to gain control of his emotions.

(a) CHARACTERISTICS OF EMOTIONAL EXPRESSION

(i) A child's emotions are *fleeting and variable*. We all know how rapidly a child can switch from crying to laughing and vice versa, which expresses a wide range of emotional experience.

(ii) *Fear*

The pre-school years mark the climax of specific fears. The child fears the dark, imaginary dangers like giants or dragons, and also people and animals which seem to threaten him. What he sees is a potential danger. As he grows older and understands better – and if he receives the right educational support – he learns to discern that not all of these dangers are a threat to him personally.

- Lively, intelligent, uninhibited children appear to have more imaginary fears, probably because they are unusually sensitive to danger.

- Girls generally show more fear than boys. This is also more acceptable socially.

- Children who are in poor health, or hungry or tired, are more prone to fear than healthy children.

- Children subject to violence at home show more fear than children from tranquil homes.

– Individual differences and the quality of education are dominant factors in a child's experience of fear.

Of course, frightening situations become rarer as the child matures intellectually, simply because he is better able to understand and distinguish.

(iii) *Anxiety*

Fear arises from an objective source which, even if imaginary, is real to the child. Anxiety, on the other hand, derives from a subjective problem he cannot solve, e.g. real or imagined inability to perform a task.

– Anxiety depends on an ability to picture a situation that is possible but not yet actual. For this reason anxiety does not normally appear until school-going age is reached. After that it persists for the rest of a person's life.

– Anxiety is characterised by nervousness, depression, irritability, moodiness, restless sleep, quick-temperedness. The anxious child feels insecure.

– Anxiety occupies the child's awareness to such an extent that he is either restless and hyperactive or else withdrawn, unable to concentrate or to feel interest. Anxiety inhibits exploration and the readiness to take risks.

– Secondary anxiety-based problems like stomach-ache, headaches, enuresis and other psychosomatic complaints, like the rest of the manifestations and experiences, tend to occur towards the end of this period when the child is ready for school. This is the time to attend to them.

(iv) *Anger*

– Anger is experienced when the child feels frustrated or inhibited. A child easily becomes enraged when other children take his things, particularly toys, or when other children or adults interfere with his play or expect him to interrupt it and do something else.

– Anger responses may be impulsive – expressed as aggression – or they may be inhibited, characterised by withdrawal, escape and various forms of apathy. As the child's command of language grows impulsive responses like screaming, hitting, kicking, biting, spitting, etc. are increasingly supplemented or replaced by verbal responses.

(v) *Love*

Love is expressed in hugs, stroking, kisses and a general contentment and relaxation that may also be expressed in words. Affection for parents and others is the most common form. The child may also show affection for his toys. A neglected child may express great affection for a toy that replaces the parent. Physical expressions of love grow rarer as the child grows older; they now embarrass him. Especi-

ally after he goes to school he considers himself too old for such demonstrations and will not even kiss his mother when she drops him at school.

(vi) *Joy*

– A healthy child is naturally happy and contented. The small child is often exuberantly happy; he will laugh, shout and express himself in motor actions like jumping, rolling, clapping his hands, etc. This exuberant delight often occurs in situations involving playmates, especially when his exploits exceed theirs. The child is happy when he succeeds and feels accepted. A predominance of the pleasant emotions, like affection, love, joy and cheerfulness, are essential for normal growth to adulthood. They indicate, and enhance, the experience of security.

4.2.3 The social basis

Only in the company of people he esteems can the child effectively mature. Parents and other educators provide essential educational support. His peer group enables him to practise the norms assimilated from adults. In pedagogical terms we speak of pedagogical togetherness and pedagogical encounter. Togetherness must become a relationship where they realise they belong together. There must be fellowship as well as encounter between educand and educator. For self-actualisation the child needs to meet and be with his peers as well as with others whom he esteems (even when this is not a pedagogical encounter *per se*).

We now need to ask: *what are the marks and conditions of the encounter between the child and others?* We must remember that the small child has already experienced a good deal of educational intervention and approval. What is at issue now is future fellowship and encounter. The following aspects may be distinguished:

- (a) The child (person) encounters another person *by means of his body*. Apart from physical contact, friendliness is expressed through the eyes, facial expression, gestures, etc.
- (b) Fellowship and encounter become easier if the child's behaviour *coincides with accepted social norms*.
- (c) The child's *readiness to co-operate*. Up to four years of age, a child's play is largely egocentric; only after this age does he play *with* others. Even if he does not succeed in co-operating, willingness is vital. A generous child will be accepted.
- (d) The child's *eagerness to be accepted*. Where this urge is a natural one, the child is prepared to sacrifice his own wishes in order to be accepted, especially vis à vis his peer group. This deference to others

- (whether educator or peer group) eases encounter and fellowship; but when it becomes an obsession, it inhibits them.
- (e) *The child's verbal articulacy.* The child is by now talking well, and this becomes increasingly important as a medium of communication.

Language as a medium of communication *

During the period two to six years of age the child usually learns to *talk fluently* and becomes ready for school in this way also.

His speech may be classified into *egocentric* and *socialised* speech. Egocentric speech gradually becomes socialised, but for a great many reasons there is no specific age barrier between the two. Egocentric speech is indulged in for the pure pleasure of talking; little communication takes place, since no ideas are exchanged. It resembles a monologue, and its value lies simply in helping the child to become more articulate. Egocentric speech or monologue may occur in adults also. Socialised speech is intended for communication, in addition to other forms of communication. The child speaks to other people, conveying a message to them, and he receives a message in return which he understands because he knows the language.

The meaning of effective speech. The sooner the child starts speaking, the better. The child who starts later probably learns faster, but he misses out on speaking practice that promotes fluency. Language as a communication medium plays a major part in the forming of relationships: it also serves as self-expression. The child can ask questions and express wishes. A child who is slow in learning to talk experiences a good deal of frustration which may be expressed in undesirable ways like aggression. The early talker, on the other hand, attracts the kind of attention that results in good social adjustment, and pedagogical dialogue is also better understood.

The more one talks to a child, the more effective his speech and vocabulary will become. Baby-talk inhibits this development. A child's speech is developed by encouraging him to speak correctly.

Speech problems are varied – slight problems that cause little difficulty, or serious handicaps that are difficult to remedy. They are often accompanied by emotional problems.

4.2.4 The cultural basis

A baby is born into a specific culture. The objects he encounters – clothes, bed, bottle, toys; later on furniture, tableware, etc. – are cultu-

rally determined. The care and affection he receives also have a cultural component. The child is educated to acceptable behaviour patterns and moral norms. His behaviour will also typify the subculture to which his parents belong. These behaviour patterns prepare him for further educational influences.

4.3 FORMING RELATIONSHIPS

The child is born into a world of meaning. *How does he himself assign adequate meanings to his world and to the people and objects in it?* Because of his own involvement he can only find a place in the world in so far as he understands it. Once the child begins to understand, a relationship is formed which may be ineffective and may be improved through greater involvement. The surrounding world can be divided into broad categories: *people* (parents, family members, peer group); *objects* (all the objects he comes into contact with); and *ideas* (concepts that concern his dealings with the world and make these possible). We must also take a look at the child's relations with *himself*.

There is an enormous difference between the child of two and the child of six, and this difference extends to the way he forms relationships. This, the nature of the relations and their effect on his development, will show a dynamic progression and can therefore not be described exactly, but as a progression reaching its culmination before the school years begin. The small child is one who starts by walking, then learns to run, jump, climb and delight in all kinds of motor activity. In the healthy child, sense perception is already well developed. He can see, hear, feel, smell and taste, but he does not have the experience to interpret it properly. His thoughts are concerned with concrete reality; with mental pictures and the concept of action. They are also transductive and strongly centred. Emotionally he is labile, but with educational help he learns to control his feelings. The child longs for security and loving acceptance and he longs to give love in return. Along with all his expressions of delight, he is easily overwhelmed by fear. He likes to play, and his use of language is functional enough for meaningful dialogue.

4.3.1 Relationships with parents

By this time the child knows his mother well. *Because of the consistency of her behaviour, she remains an anchorage point or beacon* for the forming of further relationships. A healthy relationship will be characterised by

love, security, self-giving acceptance, trust and esteem. The parent who knows his/her child not only *sees* and *hears* the child but also *feels*, and through this *empathy* knows what the child needs. The knowing, feeling and willing is mutual. The child knows the parent, who does not always succeed to hide his/her feelings. The child also quite easily understands the parent's intentions concerning himself. The polarisation effect of a healthy relationship is attraction. Even if the parent were to reject the child and feel estranged, the child will for a considerable time approach the parent. He is emotionally bound to the parent in such a way that separation brings pain. A child who feels accepted and secure can leave his parents on occasion with far less tension and anxiety, because he is secure. This certainty of acceptance is very important for a child's development, because he can venture and explore without fear of separation from the parent.

4.3.2 Relationships with peers

Up to the age of four the child's language and play are largely egocentric, but he greatly enjoys being with his peers. Between the ages of four and six, communication with playmates teaches him the beginnings of sharing. The urge to be accepted helps him control his own feelings and will.

4.3.3 Relationships with objects

Such relationships in his physical world depend on his ability to assign meaning to the concepts of space, time and quantity in regard to the concrete world.

4.3.3.1 Spatial relationships

The child's understanding of objects depends directly on the *permanence of their meaning* for him. When his ball rolls under the chest of drawers, he knows that it has not changed or disappeared, and he makes meaningful efforts to retrieve it. He is aware that his physical environment includes more objects than he has an immediate use for. He can picture familiar but absent objects and compare these with objects he can see. He can give a meaningful answer to a question like 'Does this car look like your father's car' (which is not present)? 'Is this car the same colour as your father's?' 'Is this dog bigger or smaller than yours?'

The mental images the child works with, and their relationships, are still primitive. He may know that the large aeroplane next to him is the same as the 'tiny' one high in the air, but space and distance are confusing and he finds it difficult to deal with *permanence of size* in relation to an increase in distance. This ability increases rapidly as he becomes older and more experienced. He becomes better at spatially structuring his world. This is important, for it enables him to take up a stance in regard to objects and their size relative to himself, for example. Spatial orientation, especially in regard to position, size and distance, makes accurate perception possible. A child with problems in spatial orientation has difficulty in distinguishing between left and right, above and below, before and behind, inside and outside. He mistakes shapes – for instance, confuses 'b' with 'd'. Exercises in perceptual development, especially at nursery school, are vital to the child's readiness for school. Most children achieve spatial orientation before they go to school: their relationships with objects in space are authentic. A boy knows, for instance, that he must run further to get to a stone ten metres away than his friend must run to a stone five metres off.

4.3.3.2 *Temporal relationships*

The child has problems with temporal orientation because he cannot understand that time proceeds at a constant pace, independently of himself, his wishes and his needs. His conception of time is very diffuse. The half-hour he spends waiting for a playmate is much longer than the half-hour they spend together. Only after the age of four can the child begin to form an idea of the constancy of the time indicated by clocks and calendars. He often develops his own time units, e.g. 'three sleeps to go before my birthday'.

To form relations with the world, then, temporal as well as spatial concepts are necessary. At first because of centring and egocentric thought, the child's concept of time relates only to himself, his needs and pleasures. Towards the end of the period a time concept according to a chronometer and calendar develops. The *permanence of time* begins to dawn on the child, also the connection between time and distance. He begins to realise that to run around the block twice takes longer than to run around once.

4.3.3.3 *Quantitative relationships*

If a child can count up to ten, this does not necessarily mean that he can

conceive of the number ten. A conception of quantity is born of much experience. According to Piaget and Inhelder (1962) the child considers that quantity changes along with shape. Everyone has heard of the classic experiments with clay. The child thinks the clay becomes less when its shape is changed from a long snake to a ball. Only when the *conservation* or *permanence* of volume (quantity, number) despite changes in colour, shape, etc. dawns on him can the child form authentic relations in this regard. On such evidence as the reports of the 'Head start' project in the U.S.A. it is still doubtful whether this sense of the conservation of space, time and quantity can be speeded up.

A child's concept of his physical world is a function of the unique interaction between the child and his environment, experience, needs and ideals. He makes no attempt to understand space as space or quantity as quantity. The concept appears as a part of his interaction with people and objects, and individual differences bring about a difference in the quality of these relations.

4.3.4 Relations with himself

The child's relations with family members and objects and his identifications with parents and others have resulted in a fairly well-defined self-identity. He knows himself – his name, sex, appearance, etc. Though he cannot express it verbally, he knows who he is. This identity formation is dynamic and continuous. Father's or mother's clothes are put on and their behaviour copied. The imitations are real and convincing, and a number of roles are tested. As a self-identity takes shape, the need to test roles diminishes.

The self-concept is supplemented by evaluating the burgeoning identity. Acceptance by parents, family and playmates brings self-acceptance. *Self-acceptance brings self-esteem*. This positive self-image is a precious assurance that he matters – is adequate and capable of exploring his world. The evaluated self-image has a clear *tendency to action*. A positive self-concept is largely the outcome of loving, caring, accepting education within clearly defined limits. It enables the child to forget himself (his own identity), and to take risks, to explore and to form relations. He becomes selflessly involved and successfully assigns meaning. As Canfield (1976, p. 4) says, a positive self-concept is a better indication of success than a high I.Q.

4.4 THE CHILD'S LIFE-WORLD

4.4.1 Meaningful relationships

It is essential for a child to orient himself in relation to his world; and for this purpose he must understand the significance of the people, objects and ideas in it and also of himself. Involvement with this world is possible only if he has formed meaningful relationships and in this way constituted a life-world. Knowledge of the world implies an effective assignment of meaning, and this calls for educational support and explanatory teaching. Meaning is enhanced by the constant assignment of meaning, and this is made possible by an increase in effort. This, too, calls for support to enable the child to participate in and take responsibility for his own development. Involvement in the attribution of meaning heightens the effectiveness of relationships by enhancing their meaning and by leading to pleasant experiences.

4.4.2 Conditions for self-actualisation

The child initiates relationships; these give him increased control of his world and let him actualise his potential. The needs of the child are a precondition for growth to independence. The following are a few of the important needs:

4.4.2.1 *The need for achievement (competence)*

A child must experience being in control of at least a part of his external world and being able to achieve success in it. The satisfaction of this need for achievement calls for increasing involvement in tasks and with the objects he encounters. Spontaneous praise even for small successes is another prerequisite. If others accept his achievements, he can accept them himself and go on to further achievement.

4.4.2.2 *The need for love and esteem*

A child must know that his people love him and consider him important; that he and his affairs matter to them. He needs loving caring adults who provide security and a feeling that he is valued.

4.4.2.3 The need for understanding

The child urgently needs understanding from his adults. His educator must be patient and must try to understand what he is after, even when he makes mistakes. The child may not be able to formulate this need, but it is a vital one all the same.

4.4.2.4 The need to belong

Togetherness is one of the indispensable pedagogical requirements. The child needs support and security. Support gives the child a feeling of belonging ("ons-heid" German "Wir-heit"). His mother does not have to be at home 24 hours a day: it is the quality of the parent-child relationship that matters.

These needs must be satisfied if further relations are to be formed and an adequate life-world established. There are other conditions for the quality of the relationships:

(a) GENETIC POTENTIAL

The child is an open energy system (Gordon) with the possibility of making choices and one who can transcend any substantive limit or characterisation. But the child with hereditary limitations – motor or perceptual – will be handicapped in comparison with others. These handicaps will show up in all his relationships.

(b) PREVIOUS EXPERIENCE

A child who has experienced success in his explorations will show greater confidence in further exploration.

(c) EDUCATIONAL EXPERIENCE

A child's self-esteem will be greatly influenced by acceptance, rejection or spoiling, and this self-concept, high or low, will tend to produce the corresponding behaviour. A child forced into the defensive by rejection will not expose himself to risks. The inferior scope and quality of his life-world will derive from a poor self-concept.

4.4.3 The child in his life-world

We can only speak of individual life-worlds. A common life-world would be so attenuated as to have little empirical meaning.

Education is of incalculable importance for a child's psychological development, which in turn affects his self-image and relationships. Different factors predominate with different children. Pedagogical influence can be seen in all the relationships a child forms at this age, and his life-world reflects the assimilation of educational support.

Mussen et al. (1969, p. 372) give the following description of Baumrind's interesting research. A study was made of the predominant method used by three groups of children in establishing a life-world. A study in depth compared the nature and quality of the parents' educational methods with the children's personality traits, which reflect their dominant means of forming relationships. (Results only are provided.)

Characteristics of the nursery school children from group I: This group was the most mature, competent, contented and self-reliant. They were realistic, confident and controlled, showed curiosity about the world, asserted themselves and got on well with other people.

Characteristics of group II: Self-control was fair, but they were relatively dissatisfied, insecure, afraid, reticent, distrustful, uninterested in peer groups and inclined to react either hostilely or regressively in tense situations.

Characteristics of group III: These children were immature and extremely dependent, had little self-control or self-confidence and tended to shirk new or tense situations.

The following data emerged from intensive idiographic research into the educational pattern followed by the three groups of parents:

Parents of group I: They were stable, warm and loving, conscientious and reassuring in their attitude to their children. The children's independence and decisions were respected; the limits of education were clearly defined and motivated. In structured situations the parents exerted strict control and required a high level of achievement. At the same time they gave more support than parents from the other groups. They succeeded in exerting control without provoking either rebellion or apathy.

Parents of group II: Their involvement in their children's education was poor. Control was firm and punishment common, but loving support was lacking. Communication with the children left much to be desired. They rarely tried to persuade the children to take a right view of things, nor were the children encouraged to express their opinions.

Parents of group III: These, like group I, were warm and loving, but their control of their children was poor. Little was expected of the chil-

dren, especially in terms of independent action. Discipline was lax; the children were over-protected. Independent behaviour was not explicitly encouraged. As nursery school pupils these children were immature, dependent and lacking in self-control.

A child's readiness to explore his establishment of relations and of a life-world, are best promoted by parents who give a great deal of love and support, enforce educational controls, and respect and encourage their children. Such parents give their children the best pre-school preparation for self-actualisation.

A vital factor in the life-world of a small child is *play*. At the start of this period, *play is largely egocentric*. Children play alongside each other rather than together. Towards the end of this phase they play together contentedly. In this way they get to know not only one another but also the world of objects. The child's greatest pleasure is the activity, especially the shared activity. He learns to use his strength and skill and also how to obey rules – even though the rules are often arbitrarily changed. While play is voluntary, there is considerable identification with toys, so that a favourable climate is created for the solution of personal problems. Van der Zeyde (1963, p. 159) explains this as follows: in playing, the child has no need of secrecy, and this promotes mental hygiene. Mussen et al. (1969, p. 411) quote Erikson as saying: "To play it out" in play is the most natural self-healing measure childhood affords.' As a result, various authorities advocate the treatment of children's problems by pedagogical play action (Van der Zeyde 1963, Erikson 1964, Jackson and Todd 1950).

4.5 SCHOOL-READINESS AS A DEVELOPMENTAL TASK

School-readiness refers to the child's total readiness to benefit by formal education in a group context. School-readiness is not directly linked with chronological age but with the child's level of development. Readiness for school includes maturity, which is directly linked with biological, neurological and motor development. Maturity refers to the physiological growth that takes place when the child is physically fit and receives the right feeding and care. Readiness refers to the child in his totality, who has achieved a level of independence in his relationships that enables him to meet the requirements of school with a minimum of tension and exertion. In this connection we may distinguish physical, psychological, moral and social levels of development.

4.5.1 Physical development

This includes general health, the development of the body and motor development.

- (a) The child must be well enough to have the energy for his school-work.
- (b) He must be able to run, jump, climb and perform rhythmic actions in a controlled way. He must also be capable of finer coordination, e.g. fastening buttons, making bows, handling a pencil or scissors, and sitting still for protracted periods.
- (c) He must have achieved lateral preference and spatial orientation so as to distinguish between up, down, in front, behind, etc.

4.5.2 Psychological development

A child's level of cognitive, affective and conative development permits him to do his schoolwork independently.

4.5.2.1 *Cognitive powers*

He can see, hear, smell, feel and taste properly.

He is able to memorise shapes, numbers and names.

He recognises people, objects and situations.

He can count up to five – often further

Language is well developed so that he can communicate, understand instructions and listen to a story.

He is able to group objects according to colour or shape.

He is capable of laying down rules and detecting (ir)regularities.

He is ready to learn to read, write and calculate.

4.5.2.2 *Affective powers*

His emotional life is still very labile.

Outbursts of anger are rare.

Emotional expression is controlled.

Emotional experience plays a considerable part in cognition.

He is full of interest and enthusiasm for objects and phenomena.

His achievements give him intense pleasure.

He is cheerful and lively.

He is prepared to share the affection of teachers with others.

4.5.2.3 Conative powers

He wants to learn and achieve.

He wants to go to school independently.

He wants to associate with his peer group and can keep his own wishes in abeyance.

4.5.2.4 Moral powers

Being morally aware, he is prepared to try and do a task as it should be done.

He can adjust to the rules of a game.

4.5.3 Social development

He is ready to go to school without help from the family.

He is ready to form relationships with teachers and school-mates.

He plays with school-mates.

He is prepared to share toys, interests and attention with others.

He can identify with significant others but also with characters from stories.

The primary school child

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CHAPTER 5

The primary school child

5.1 WHO IS THE PRIMARY SCHOOL CHILD?

Between the ages of six and twelve the child usually attends the primary school. This is a very extensive category which depends entirely on practical organisation. The difference between a standard five pupil ready to leave the primary school and a grade one child who has just entered the school is enormous. There is obviously no typical primary school child. In our consideration of these children the focus is on the development they all undergo from grade 1 to standard 5.

We are likewise kept aware of the fact that during this period the child can only fulfil his self-actualisation with educational support.

The child who enters school for the first time moves away from the sheltering home and the ever present mother to the peer group and community. He enters a world where the criteria for acceptance are physical abilities and neuro-muscular skills. He also enters the rational world. Here he is expected to understand because concepts, symbols, logical systems and the modes of communication of the adult world are presented to him, albeit in a simplified form. The child who wishes to become an adult, desires to move away from the safety of the home physically, intellectually and socially in order to explore the unknown. The parent should facilitate this by assisting him to move away from the home without anxiety. The school provides ordered, adult formal systems with which the child can form relations.

At the beginning of this period the child is pure possibility – waiting to be realised by the developing power of his body and mind. As we have said, the healthy, balanced child has confidence in his mother, his family and in himself. This basic trust remains a developmental component which develops further during the primary school years. The child already has a great deal of independence. This is in fact one of the criteria

for school-preparedness. This qualified independence with which the child enters school can and should only be developed with educational support. The educator (parent or teacher) should only expect as much independence as the child's sense of responsibility can support. The pre-school year or two is characterised by activity for the sake of the pleasure of activity. This *activity continues in the primary school* although the child is now *capable of ordering and structuring the activity in rule-governed games* and of enjoying it.

A new feature of personality development emerges with the coming of the primary school years, viz *task completion*. The child is now prepared to listen to instruction and to persevere with a task until it has been completed. Erikson (1950) calls it the era of "industry, duty and accomplishment". This willingness prepares the child to stay occupied with a task until it has been completed. The experience of pleasure on completion of a task paves the way for the ability to find pleasure in labour.

The educational support which the child needs in this respect is indispensable. He must experience appreciation, encouragement and praise with every attempt that may lead to success. A very real danger during the early primary school years is the possibility of developing feelings of inferiority and inadequacy that may suppress his attitude of daring.

In the child of approximately six we recognize new drives and hankeringings that direct him in his self-development. He wants to play with friends. He is prepared to sacrifice the independence of his will to be able to play with others. Thus new dimensions are added to his involvement. An involvement testified by task completion is evident. He wants to complete whatever he is doing. A year earlier he gave meaning to his will by measuring it against new demands from one moment to the next. He is now *prepared to subject the autonomy of his will to the need for task completion and the pleasure of accomplishment*. Once we understand the situation we realise that the child now experiences meaning on a higher developmental level. It becomes important to him to employ his autonomous will in the service of the new meaning. He decides to stay occupied until he has finished. The way towards the child's future involvement in task completion is paved by the educator who determines the length and degree of difficulty of each task, supports the successful completion and praises his success.

The language competence of the child is such that he *can communicate*. He can listen, understand the instruction and follow the story. When going to school he already possesses a certain general knowledge, thanks to the involvement of educators and his daily experiences in a particular culture. He already knows a wide variety of concepts and functions. The healthy child's *cognitive functions* such as awareness, per-

ception, recognition and memorising, recollection and understanding have already developed to such an extent that they can be *directed towards learning skills*.

We recognise the primary school child as someone who is sufficiently independent to be able to move away from the protection and safety of the home and who wants to become involved in his peer group. He is interested in and wishes to be involved in the activities of adults such as reading and writing.

The six year old who goes to school does not do so in order to play. He wants to work and to revel in the experience of task completion. Many a teacher knows of the child's disappointment if he does not receive a reader on the first day.

In the child's search for meaning he has to begin by discovering *who* and *what* he is. *Self-identity* appears during his association and interaction (dialogue) with people and events that are important to him. When Brennicke and Amig (1971, p. 40) say that "significance is the realization that you are part of all that is going on, that life includes you" it means that man only finds meaning in life in his relation to others and in the manner in which he understands himself.

The child's main task is to discover and assign meaning to everything he is involved with. In this manner relations are formed and a life-world is established. Attention will hence be given to the child's relation to others, to things and to himself.

The significance attribution which leads to the forming of relations takes place with educational support and this continuously makes new demands on the educational support needed to assign meaning in order that such relations may develop.

The physical development of the primary school child continues gradually. Increase in height and mass and the appearance of typical sexual features become evident. Boys become more masculine and girls more feminine not only in forms of dress but also in forms of conduct until secondary sex features appear at the onset of puberty.

The child's increasing *powers of co-ordination* are of special significance to his development. His co-ordination is directly linked with his success in school and in the peer group. Co-ordination manifests itself in reading, writing, running, jumping, cycling, etc. Changes in co-ordination are characterised by an increase in complexity. *The criterion is efficiency*. Success is the criterion for acceptance in the group and an awareness of a body image emerges depending on the fact whether or not the body enhances or hinders acceptance in the group. Individual differences lead to great deviations (both positive and negative) from the average.

5.2 WHAT ARE THE DEVELOPMENTAL TASKS OF THE PRIMARY SCHOOL CHILD?

5.2.1 Introduction

It is only possible to characterise the primary school child if it is also possible to observe the development of his independence. Therefore the empirical educationist has to find criteria of comparison for determining the advancement of the child and for determining the characteristics of each stage of development.

The uniqueness of the individual has already been emphasised. Genetic make-up determines the initial differences between individuals. Biochemical individuality remains (such as finger-prints) and even increases in uniqueness as a result of perceptual idiosyncracies in the midst of cultural experiences.

Despite this fact it is also true that two children born at the same time in different parts of the world have more common characteristics with each other than differences from each other. *Commonness and uniqueness are not mutually exclusive.* Within certain cultural communities where the same values and ideas are considered valid and where similar organisations and situations exist, children will display many common attitudes, convictions, and linguistic and behavioural patterns. Children have to master many common educational skills within this primary school phase.

It has already been said that the child gradually manages to move his safe basis from the home to the peer group. He goes to school to meet the demands of the school. The community expects a great deal of independence, and subsequently, responsibility from him. In his endeavour to hold his own in these situations the following developmental tasks may be distinguished (Havighurst 1953) as they emerge from the physical, psychological, social and cultural basis we have been dealing with.

5.2.2 The mastering of physical skills necessary for play

The child who goes to school at the age of six gradually plays more *with friends*. He is accepted in the age group if he can conform. A pre-requisite for this identification is that he should be able to run, kick, climb, etc. like the others. This requires physical development and muscular co-ordination. The age group sets relentless standards. Their play is such that each member must be able to run, jump, etc. The mastering of basic physical skills required for play is a developmental phase

that renders more difficult and complex skills possible. Efficiency is the measure at each level of development.

5.2.3 The formation of a sound attitude towards the self

The child has to learn to wash his face, take care of his clothes and to be neat. The establishment of such good habits requires much monitoring, encouragement and support. These habits are valued in society and demanded by the school. If the primary school child masters these habits successfully they become automatisms.

5.2.4 Learning to get along with friends

He no longer plays *alongside* others but *with* others. He must make friends and suffer enemies. His desire to get along with others is so strong that he forfeits the autonomy of his will and his sole right to his toys. He learns to play according to rules that imply fairness in the game. His success depends on physical skills and personality traits. The child who experiences difficulty in mastering these skills often develops scholastic problems. The teacher should be aware of this.

5.2.5 Learning the appropriate sex role

During the early school years there is little difference between the physical drives and abilities of boys and girls. In the senior primary phase differences that manifest themselves during adolescence, become evident. From the early years a boy is taught to act like a boy and a girl to act like a girl.

During the early years of group identification not much notice is taken of the other sex. Boys especially, consider it humiliating to look or act like girls. Being a sissy means being rejected. The actualisation of the sex role is closely linked to the identification with the parent (or other important adult) of the same sex. The shortage of male teachers poses a real threat to the sound development of boys.

5.2.6 Mastery of the basic scholastic skills (reading, writing, arithmetic)

The particular task of the primary school is to teach the basic skills. Children do not acquire these skills at the same tempo, but towards the

end of the primary school years automatisms should have been acquired in the three R's.

Not all children develop a complete mastery of the basic skills. Many learning problems are related to a poor mastery of reading, writing and calculating.

5.2.7 Learning everyday concepts

In the school and in society at large the child communicates with other children and adults and thus learns a vast number of concepts. General concepts such as *animal, food, square, round, red, traffic, anger, love*, etc. are functional at an early stage.

It may happen that a child uses any number of concepts abstracted from too small a sample of concrete examples. Consequently these concepts are impoverished and have a limited applicability.

5.2.8 The forming of the conscience, morality and scale of values

The child learns from an early age that certain forms of conduct are accepted and others not. He learns that certain acts meet with an approving *good* and others with a reprimanding "*bad/naughty*". As he grows older he learns that *good* and *bad* are norms of conduct irrespective of the presence of the parents. The internalisation of the norm eventually comes from the child. "One should not do this." By identifying himself with the examples of his educator the child comes to accept the norms as his own; to form a scale of values and to activate his conscience. This system of values and these conscious ethical norms are manifested in his behaviour and this makes him acceptable in his community. He displays a preparedness to give more than he claims for himself and as a result he is acceptable to his friends.

At home, and especially in the school, his conduct should reflect ethical norms as matters of fact. Lying, stealing, the use of abusive language, ill-manneredness, aggression, etc. are unacceptable in any decent society. For this reason the establishment of ethical norms and a scale of values is a developmental task which is indicative of self-actualisation.

5.2.9 Stability of personal independence

The child should become an autonomous person who can plan and take the responsibility for his decisions without depending on parents, teach-

ers and other educators. This independence becomes evident when the small child starts to walk, eat, talk, etc. Physical independence which enables him to go to school is followed by psychological independence. On the cognitive level the child assimilates ready knowledge in school of which the parents may know less. This body of knowledge gives the child a measure of authority to make decisions independently from the parents. In the peer group he has to make many decisions. It is expected of him to make decisions that do not concern his parents. He has to join team A or team B, take first place or last place, etc. He has to free himself from his identification with his parents to such an extent that he is capable of making such decisions independently.

The child's geographical freedom increases: he wanders further afield and stays away longer without any anxiety. Later he may even spend the night at the homes of friends. Psychological independence increases to such an extent that during adolescence he realises that his parents also make mistakes and that he may differ from them without injuring their dignity.

The primary school child's strong drive towards activity requires sufficient freedom of movement. He should be able to wander out of sight of parents or friends and to return of his own accord without feelings of anxiety.

In school the child should be given the opportunity of experimenting with alternative methods, of making his own arrangements both in school and after school.

5.2.10 The development of attitudes towards social groups and institutions

The grade one child has as yet no fixed attitudes towards social groups. By the end of his standard five year he has definite attitudes towards his church, race, school, etc. and towards groups with which he does not identify himself. Apart from pro or con attitudes he has also learnt the nature of attitudes such as respect, awe, contempt, etc.

5.2.11 The forming of a self-concept as developmental task

When the child enters school he is already linguistically competent. His successful relations have already contributed much to a clear evaluation of his identity. He knows his name and sex: he can recognize his image in a mirror or on a photograph and he is conscious of any number of his attributes.

On going to school the child constitutes new relations with his age

group, with his teachers and with things. The effect this has on his self-concept depends on his experience of efficiency, adequacy and success. The image the child forms of himself is related to his skills (Havighurst 1953). His self-acceptance is related to his control of his world (Gordon 1969). *The child's self-acceptance is directly linked to his being accepted* by his parents, friends and teachers (Coopersmith 1967). His physical skills contribute towards a positive body-image (Shilder 1935).

The crucial question concerning the self-concept is: What is the personal meaning of the child's experience? (Gordon 1969). From an objective point of view the child's assigning of meaning may seem incomplete and erroneous. For the particular child, however, it is absolute, real and true. He will protect and nurse this self-image and it will remain the source of reference for his relevant future decisions and experiences.

Developing the self-image during the primary school years is an almost super-human task. The purpose is a complete reorganisation of the personality structure around the self (Ausubel 1954). Because of the dynamic nature of the self-image it may rightly be considered to be the moderator-variable of the personality (Vrey 1974).

The child's own expanding constituting of relations that depend on significance attribution and orientation in a world with others interacts with his self-image. Because of the change in experiences and increasing orientation in his life-world the self-concept only stabilises when adolescence is reached (Douvan and Adelson 1966).

5.3 HOW DOES THE CHILD REALISE DEVELOPMENTAL TASKS?

5.3.1 Introduction

From birth the child has to try orientating himself towards the world into which he has been born. He finds himself in a community of people and things. To these he has to assign *meaning*. Orientation depends on certain fixed points that may serve as points of reference in his future exploration of the world. The initial anchorage points are the mother, the physical environment which includes all the things he knows, and his own self-image. The initial naive meanings are obtained through the child's own involvement. His experience of his mother's care and devotion indicates his involvement: on the strength of his experience he can anticipate the mother's pampering at the sound of her footsteps. The nature of initial meanings depends on affective experience therefore these meanings are emotionally coloured.

It may be stressed that the child assigns meaning, i.e. he forms relations because he is *involved* in certain situations. He is a participant. He replies when he is spoken to, laughs in reply and evokes reactions from adults (or things) by his actions. The bigger the child, the bigger his conscious involvement in the educational event and the communication with friends. His involvement with things can be seen in his handling and manipulation of these. The primary school child is often reprimanded: "Look with your eyes, not with your hands." Even for the smaller child the lounge has to be made *child-proof*: fragile objects have to be placed out of reach.

Only during the primary school years can the child perceive without manipulation. The pre-school child can become intensely involved when listening to a story (e.g. Little Red Riding Hood). It is by means of the senses and bodily activity that the child becomes involved in significance attribution that leads to the forming of relations. By means of these relations developmental tasks are actualized. The specific act of involvement takes place through handling and manipulation, observation (seeing, hearing, feeling), communication. The child can only become involved if he wants to be involved.

5.3.2 The relation between the child and his parents

5.3.2.1 Introduction

The parent answers the child's cry of distress, regardless whether he be an infant, primary school child or high school child. The parent gives meaning to the cry and knows what to do even if this means withholding help in a case where he knows that the child must be given the opportunity of making his own attempt. This kind of help and support is called education. The relation between parent and child is more extensive than the educational relation because the parent is not continually educating (Van Praag 1950). The associative relation forms the pre-formed field for the educational relationship (Langeveld 1957). It should always be possible for an educational relationship to emerge from the parent-child relationship. This means that the educational relation is intrinsically given in the parent-child relation. Montagu (1953) claims that love is the most important component of human nature. We know from experience that love is the most important attribute of the parent-child relationship.

5.3.2.2 *Love*

The relationship between parent and child is based on love. This quality of the relationship will always be significant in the child's involvement. In the relationship between mother and child the features of pedagogical love can best be identified. This does not mean that parental love is identical to pedagogical love.

It is quite possible that – because of love for the child – the parent may over-protect or spoil the child. This can lead to a wide variety of pedagogical implications. “The opposite does not hold: where pedagogical demands are met, love cannot be totally absent” (Oberholzer 1972, p. 111). This means that if the association of parent and child is such that pedagogical criteria are met, pedagogical love is a pre-condition for the possibility of such an event.

Anyone who uses the word *love* intuitively assigns meaning to it. To come to grips with this concept in scientific terms it is necessary to describe it in distinguishable terms. We shall make use of Erich Fromm's (1956) description. We shall identify the following components of pedagogical love: knowledge, care, respect and responsibility. Each of these will be discussed separately.

(a) KNOWLEDGE

A relationship of love requires that the participants know one another. Parent and child should know one another. This does not presuppose an objective, denotative description of the one by the other. Knowledge means more than intellectual insight. The one should experience the other. The parent is involved in the child's weal and woe. The mother interprets the baby's crying and, later on, its coughing, restlessness, shyness or rebelliousness. For this she needs little objective knowledge. The parent's involvement leads to a co-experience of the child's experience. The parent gives meaning to these co-experiences in an empathic manner.

Likewise the parent cannot hide his dissatisfaction, aversion or unhappiness from the child. The child “senses” this. He also has co-experience of the parent's moods and emotions. In his dealings with the child the parent dares not put his best foot forward. Similarly the child cannot pretend to be what he is not, in the presence of his parents. Without this mutual intuitive knowledge and empathy parents and children cannot love each other.

Should the parent be too busy or have too many other interests to create a conversational situation where the child can reveal himself

or unburden himself to someone who understands, the child retreats – and the parent will no longer know him.

If the parent is unable to evaluate the needs and hankerings of the child for what they really are in terms of the child's own experience, the love relationship between parent and child will be severely hampered.

The primary school child no longer wants to be cuddled on the parent's lap. The parent should appreciate the child's growing independence and give him his support. He even finds it embarrassing to be kissed by his parents in the presence of his peers. The parent who knows his child, is not concerned about this. He knows that the child is struggling with his own emancipation and his identification with his peer group and that, as yet, he is unsure of the requirements of this new loyalty. The parent therefore supports him and facilitates matters for him by not expecting him to kiss his mother at the school gate.

If the child develops problems at school it is often very difficult for the parent to distinguish between illness and shamming; between indolence and inability or between real injustice and a mere need for letting off steam. Knowledge of the child is only possible if the parent lives with the child and not merely alongside him.

It is a common occurrence during the primary school years that the child will rather do what the teacher expects of him than do what the parents expect of him – should there be a difference. It often happens that the child refuses to wear a jersey because his friends do not wear jerseys. This is not disobedience; he also has to obey the authority of the teachers and that of the peer group. *In the peer group he has to earn his acceptance.* On the other hand he knows that *at home he is accepted for what he is* and not for what he does. The parents still accept him even if – in his emancipation – he moves further away from them.

(b) CARE

Knowledge of the other person goes hand in hand with care. *The one should care about the other; be concerned about his well-being, health, joys and sorrows.* Love can also be taken to mean: *I care for you and I am concerned about you. Therefore I want to know how you are and what is happening to you. Furthermore: It hurts me when you get hurt. I feel and share your joy, your sorrow, your enthusiasm, your loss and your confidence. In fact, you matter.*

Care is much more than the provision of food and clothing. The

parent guards over the welfare of the child even when the child thinks that he does not need it. The mother steps back and gives the child the opportunity of carrying his own burden. Parental care is not reduced; it becomes more reserved. The child should experience neither over-protection nor rejection. The opposite of care is indifference.

(c) RESPECT

A third facet of the relation between parent and child is respect. There is no fear and subjection, only appreciation of the uniqueness and self-being of the other. True respect has no need of humiliation or ridicule or assault on the integrity of the other. Respect means the acceptance of one by the other for what he is in an active, positive sense. Respect implies concern and that one wishes the other nothing but the best. Respect demands that you should be you and not a type of reflection of me. You should be recognized as "you".

Respect implies the recognition of the uniqueness and integrity of the other without wanting to shape him according to one's own image. The parent who happens to have been an accomplished sportsman or scholar often finds it difficult to accept that his child does not meet his expectations. Pedagogical love requires *respect for the dignity of the person* – my child – even though he might be retarded or handicapped.

(d) RESPONSIBILITY

Responsibility implies the willingness to respond; to answer the distress cry of the other; to assure him that his needs, distress and hankerings will be taken care of. The parent of the primary school child retains the full responsibility for the welfare of the child and for the educational support he needs. Because he loves him, he accepts this responsibility. On every level of development new demands are made on the parent's responsibility. The primary school child is away from home for several hours every day. This requires that the parents retain and adjust their responsibility even though the child is not under their supervision. Another facet of the love relationship between parent and child which Fromm considers to be present implicitly, i.e. trust, can best be discussed separately.

(e) TRUST

A particular developmental task for the infant is to trust the mother. He has learnt to depend and rely on her sameness, stability and her continuous provision of his needs. Trust is earned the hard way and only gradually. It is obvious that trust presupposes knowledge. If the child is to trust the mother he should know the mother. This knowledge is obtained during the mother's involvement in his dependence. Trust depends on his internalisation of the continuous sameness of the mother's consolation and provision in his distress. This experience of trustworthiness, dependency and stability fosters the child's trust so that he surrenders himself to the parent without effort or anxiety. The perception of trust leads to such generalisation that it includes his personal behaviour and the functioning of his body. Eventually the child develops trust in himself. Trust implies belief, a belief that what took place once will take place again. As the child believes in the consistency of the mother, he gradually comes to believe in his own ability to do things on his own: eat, dress, cycle, reach the school, do homework etc.

Trust is a basic prerequisite for sound and satisfactory interpersonal relations. Love does not thrive without trust. Trust is a pillar that supports love. The primary school child should retain his conviction that his parents trust him. Should the parent's trust be shaken by the child's telling lies, they should take the initiative to regain his trust rather than calling him a liar. Trust engenders trust. Pedagogical love means trusting the child to embody the norm presented to him. The parent who trusts his child, does not act on the assumption that the child is always doing something wrong. He does not police him all the time.

5.3.2.3 Research results regarding the effect of the parents' attitude towards the child

Having analysed the love relation between parents and children we may look at research results with regard to the effect of parental behaviour on the child. We have already considered dimensions of love as constructs with measurable components. However, investigators in this field all give their definitions of love.

Investigators (Mussen et al. 1969, p. 485) are agreed on some points. "Thus most studies suggest that hostility on the part of the parents tends to produce counter-hostility and aggression either in feelings or behaviour on the part of the children. Similarly restrictiveness tends to foster

inhibited behaviour while permissiveness encourages less inhibited behaviour." Hostility is not an unambiguous construct. A parent may be both hostile and indulgent. In such a case the child would be able to do what he likes as long as he did not bother the parent. Should he expect certain things from the parent he would meet with hostility. The other possibility is that of the parent who continuously enforces restrictions. Since two distinguishable forms of behaviour can be defined in this case, it is possible to determine the effect of such behaviour on the child. Becker (1964) came to the conclusion that both forms of behaviour evoke aggression from the children involved. The child of the hostile and indulgent parent gives direct expression to his aggression without any restraint. The child of the hostile and demanding parent expresses his aggression in *safer* areas such as among friends, especially smaller ones. More often the aggression is inhibited or directed towards himself or it becomes manifest in internal conflict. These children are not apt to direct their aggression towards the parents in spite of the fact that they are the primary source of their feelings of aggression and hostility.

The exercising of parental authority is also one of the qualitative determiners of the parent-child relation. Research is, however, made difficult by the problem of coming to grips with certain relevant concepts. One such term is *permissiveness*. It is not easily definable and definitions often have emotional overtones that impede objective handling. Coopersmith (1967) conducted highly significant research. His experimental design is described efficiently; his results are meaningful and his inferences logical. He studied primary school children and reports as follows on the matter of authority: "... individuals who are reared under strongly structured conditions tend to be more, rather than less, independent and more creative than persons reared under more open and permissive conditions." Coopersmith (1967, p. 187) is of the opinion that strict parents who state educational rules clearly and who enforce them, supply children with answers that eliminate uncertainty, doubt and anxiety. Such children also know how to act in order to secure maximum success.

The implication is that *unequivocal educational boundaries are advantageous for self-realisation*. When authority is exercised the child is often confused. He may only be able to report on a hiding as being painful and unpleasant. Significance is usually only attributed in context to this experience in the course of time. For this reason a retrospective view of such events gives a better indication of how they were experienced. Vrey (1974) established that adolescents with highly positive self-concepts hold the conviction that they deserved the punishment that their parents administered.

5.3.2.4 Parent-child relations and the cognitive development of the child

The controversy between the exponents of heredity vs. environment as the primary determiner of human behaviour, becomes irrelevant when we are concerned with the learning child. It goes without saying that heredity plays a role but so does the environment that makes the child's experiences possible. The child's basic or potential cognitive ability is hereditarily determined. We shall, however, not discuss this here. The question is whether the relation that the parent maintains with his child enhances or impedes his cognitive development. If we assume that nothing restricts the optimum functioning of the senses or the central nervous system, it is valid to say that intellectual development depends on the efficiency of the opportunities for learning.

Breckenridge and Vincent (1968, p. 285) say: "The effect of parents upon intelligence is one not only of hereditary potential to the child but one of parent-child relationship." Sigel (1960) also found that the child's cognitive ability is significantly influenced by his relationship with his parents. McCarthy (1954) has indicated that speech development is strongly associated with positive interpersonal relations. Newland (1960) claims that there is a correlation between speech (language) development and the child's identification with the mother (who teaches him to speak). Irwin (1960) established that babies aged between 13 and 30 months who had had books at their disposal and who had regularly heard stories had a more extensive vocabulary after the age of 17 months than did others who had not had such care. The child who assigns meaning to the mother's voice must have had certain experiences which he associated with the voice. The tone of the voice becomes meaningful and so do the words later on when they are repeated.

The evidence suggests that the wholesome development of the child depends to a large extent on the parent-child relationship. Breckenridge and Vincent (1968, p. 258) claim that the opposite also holds: "Serious and prolonged deprivation of learning opportunities, especially in infancy and early childhood, seem to result in permanent damage to intellectual growth which even a rich learning environment in later years can only partially improve. Even though children are usually in formal school by 5 years of age, the best school cannot make up for earlier serious deprivation."

While the child is in the primary school the parent will assist him with his homework; he will supply additional experiences and he will remain involved in the child's learning – thus developing his cognitive abilities. This involvement is indicated by the parent's sharing of the child's fail-

ures and successes. Support and encouragement incite the child to participate more fully and help him to develop a more realistic perspective on his experience. Encouragement and support are of paramount importance to the child's personality development. Vrey (1974) found that significantly more adolescents with high self-concepts than ones with low self-concepts ($p < 0.05$) testified to the fact that they received praise from their parents on their accomplishments even when they hardly deserved it. Likewise significantly more of those with high self-concepts than those with low self-concepts ($p < 0.001$) said that their parents had taken an active interest in their school activities and after school programmes.

We may now refer to the handicapped child, in whose case the situation is much more topical. The parent of the blind, deaf or brain-damaged child must genuinely accept him. Both rejection and over-protection will impede the optimum development of the child's possibilities.

5.3.2.5 Synopsis

For a pedagogical study of the maturing child the parent-child relationship is of primary importance. The child is dependent on parental care from the very beginning. Care is but one of the components of love. Because of the intrinsic interrelationship between care and other components, care must be undertaken with love. We have discussed the meaning of love in the parent-child relationship and we have given examples obtained from empirical research of the effect of this on the primary school child.

Education takes place during the stabilisation of the child's relations with his parents. They confront him with norms that encompass all facets of life. He develops sound attitudes towards himself. Habits of cleanliness, decency etc. are strengthened by means of reprimand, encouragement and praise until they become automatisms that are part of the child. The parent is responsible for conveying the features and functions of the appropriate sex role. The appearance of a boy with feminine traits can often be attributed to the quality of the parent-child relationship. From the child's earliest days the parent associates certain acts with being "good" or "bad". This gives rise to conscious ethical norms which the child internalises. Eventually he does or refrains from doing according to the meaning he has given to that value as norm. It then becomes "one does not do this" instead of "mommy says one should not do this".

The parent should facilitate the child's task of becoming independent by loosening his hold gradually and deliberately. While the child is being

accompanied by his parents, their conduct is his model for handling situations, people and groups. He learns for example that one wears one's best clothes to church and that one does not talk in church. If the child is accepted and respected he will accept and respect his self-image.

The quality of the parent-child relationship remains the prerequisite and the climate for the parent's supporting him in his becoming independent. It enables the child to give meaning to it, to accept it and to internalise it.

5.3.3 The relations of the child with his peers

5.3.3.1 Conditions for acceptance in the peer group

A peer group is an intimate and select group. Admission depends on mutual choice. Status within the group is a function of the group's values and the individual's role in it. Not all children belong to a peer group or to the group of their choice. The question arises: What are the conditions for admission to a peer group? We shall discuss a few factors.

(a) INTELLIGENCE

Intelligence in itself is not a criterion for acceptance in a group. Gronlund (1959) could find few direct links between intelligence and the degree of acceptance in the peer group. One does, however, get the impression that peer groups are formed by children of similar intellectual abilities. It may, of course, be the case because such children share the same interests. Naturally it is difficult to isolate intelligence as the only variable in a test situation of this kind. Both Torrance (1963) and Long et al. (1967) have indicated that the highly creative child is usually considered the black sheep and is not accepted.

(b) FAMILY BACKGROUND

As far as could be ascertained (Gordon 1969) broken homes do not have an adverse effect on the child's acceptability in the peer group. This is also the case in respect of only children and the ordinal position of children in the family. The influence of educational practice is felt in all cases of personality development. A friendly and jovial

child is much more acceptable to the group than one who is aggressive, unfriendly, uncommunicative and introverted.

(c) SOCIAL CLASS

The subculture in which the parents live is a dominant factor in the child's acceptability to the peer group. Sociometric investigations reveal that children of the same social class usually flock together.

(d) APPEARANCE

The child's appearance has prestige value. Tryon (1943) found that especially girls who are attractive, are more easily accepted in the peer group than the "ugly ducklings".

(e) PHYSICAL SKILLS

Physical skill is a criterion that includes or excludes potential members unconditionally. The child who cannot walk, run, climb or do tricks with the others in a group where these skills are high on the list of values, is not acceptable. Bodily activity and motor skills are very important to primary school children of both sexes. It is not before adolescence that social skills and emotional acceptability take priority (especially among girls).

(f) PERSONALITY TRAITS

Various investigators (Gordon 1969) have found that acceptability in the age group is enhanced by characteristics such as friendliness, co-operation, daring, enthusiasm, emotional stability and trustworthiness. On the other hand there is a strong correlation between a hostile attitude and rejection by the group.

(g) THE SEX ROLE

In the primary school and especially in the senior primary phase there is great solidarity among boys and among girls.

A girl is not acceptable in a boys' group and vice versa. This re-

quires that the child should know its sex role. A girl may still play an ambivalent role of girl and tomboy but the boy who is a sissy is not accepted by his mates.

5.3.3.2 Developmental tasks in the relations with the peer group

Having discussed developmental tasks and having discussed the conditions for acceptance in the peer group, we now turn to a discussion of the developmental tasks that the child has to realise in his relation to the peer group.

(a) PHYSICAL SKILLS

The child's physiological maturation and his socio-psychological relations must be such that his playmates will accept him in the group on the strength of these abilities. Requirements in respect of skills become more complex as children grow older. Self-realisation is geared to the mastery of physical skills.

(b) GETTING ALONG WITH PLAYMATES

The child must get along with others successfully. Personal whims must be sacrificed or at least be kept under control. The child must remain friendly in spite of unfriendliness towards him; he must retain his emotional stability in spite of adversity in order that his dignity as a person may remain unaffected.

(c) EXPRESSION OF THE SEX ROLE

The child must automatically express the typical modes of conduct that are highly valued in the particular culture.

(d) PERSONAL INDEPENDENCE

The primary school child leaves the safety of the home and whilst orientating himself he ventures into this unknown world. He must be physically and physiologically capable of moving about on his own. Psychologically he must be prepared – in spite of a measure of

anxiety – to let go of his parents' hand and to value identification with the group higher than his attachment to the home. He has to take increasingly more decisions for which he also has to accept responsibility. In the peer group he is given the opportunity of acting independently.

5.3.3.3 *Functions of the peer group*

Belonging to a peer group is extremely important to the child. An example of this was reported in the press recently. A fifteen year old London school girl committed suicide reputedly because her peer group would not accept her. The child fears nothing as much as rejection – albeit rejection by his parent or his peers. For this reason he struggles for his emancipation with all his might. He conforms to his peers in every respect and identifies himself increasingly with them.

The significance for his development of his relation with the peer group may be stated as follows:

(a) A SAFE HOME

The child needs a safe home in order to actualise his significance attribution and orientation. In order to emancipate from the role of child as subordinate, the parental home as sanctuary is functionally replaced by the peer group as a basis of safety. Since he is accepted there he conforms to them in matters of dress, speech and conduct.

(b) ACCEPTANCE AND BELONGING

The acceptance that the child experiences in the age group enables him to accept himself (Coopersmith 1967). He feels that he belongs to the group and this adds support to his dignity as a person.

(c) THE GROUP OF EQUALS

In contrast to his *role as child* in the home he now finds himself in the company of equals. He can hold his own; he can meet his peers on equal terms and his opinion is regarded as highly as that of any of the others. In this position of equality and of dignity he can venture and experiment with the others.

(d) THE GROUP MEETS THE NEED FOR ACHIEVEMENT

Among equals he is capable of achievement. Achievement is used here not in the sense of scholastic achievement but in the sense of justifiable self-assertion. He gets to know himself and evaluates his self-identity more realistically. The demands made on him by the peer group are at his level of competence, which is not the case when he moves in the world of adults. Physical, mental and social achievement is made possible. These experiences are necessary conditions for his self-actualisation.

(e) THE PEER GROUP AS POINT OF DEPARTURE FOR EMANCIPATION

By means of educational aid the child is confronted with norms. In his relation to the educator he identifies the norm with the educator. During emancipation – which is only adequately actualised during adolescence – the child learns that the educator is also subject to the norm.

In the age group all are equals and they have to conform to the norm to the same extent. In this community he has the opportunity of obtaining practice in independence during his development towards adulthood.

The child joins the group in order to obtain status, recognition and security. The age group functions in accordance with the needs of the members. It provides the information that interest the members – albeit on sexual matters or world politics – even though it may be slanted or false. This information is directly relevant to those personal meanings the member wishes to expand. Self-assertion and the development of the self-concept take place in the age group. The relation of the child to his peers which is characterised by identification and conformity is made possible by the fact that at this stage the child no longer sees the other person (the playmate) as an object that has to succumb to his whims, but as a person like himself with ideas and feelings like his own by virtue of which the playmate forms a relation with him and with many others. At this stage the child can also appreciate the other person's point of view without forfeiting his own. Only at this level of cognitive development is empathy possible (Smart and Smart 1967). Because of the voluntary identification with the age the group values are absolute and binding. Each member of the group must accept these values or face rejection. If the values of the teachers and the school coincide with those of the age group, striving towards scholastic achievement produces no

anxiety or tension. Should there be a notable discrepancy between the two value systems it would be an ill omen for the child's progress in school.

5.3.3.4 Synopsis

The age group is established rather spontaneously because of the fact that the child's needs, hankerings and expectations are not met in the world of adults. The child moves the safe basis of the parental home partially to the age group. There he expects and receives the support and encouragement as well as the required situation needed for practising the internalisation of norms of independence. An efficient relation with the playmates in the group and thus with the group as such is dispensable for development during the primary school period.

5.3.4 The child's relations with objects and ideas

5.3.4.1 Introduction

The child also has to orientate himself in a world of objects and ideas. Relations are formed by the assignment of meaning. This takes place to a large extent by means of manipulation and an understanding of the ideas. In the latter case language plays a vital part. The self is the centre of significance attribution. This can be seen clearly from the functional meanings assigned to things, e.g. a chair is "for sitting" and a spoon is "for eating". These definitions stress the functional relations that hold between the child and things. The "hyper" activity of the primary school child improves his muscular ability and co-ordination with the result that he increasingly assigns more efficient meaning to the things he climbs on, handles and manipulates. The initial meaning of what he can do with things and what they can do to him becomes more complex, but it retains its utility dimension. Especially when the child enters school the denotative meaning becomes more important. The personal meaning that a child gives to things has both a denotative and a utility dimension – and very often a dimension filled with affective overtones. These dimensions are integrated and have Gestalt qualities. As the child grows older the utility dimension becomes less prominent while the more objective denotative dimension gains in importance.

The child does not only encounter physical objects and people. As a person who lives among people he must have knowledge of concepts. We

agree with Ausubel (1968, p. 505) when he says “. . . , man lives in a world of concepts rather than a world of objects, events and situations.” Figuratively speaking, the world is experienced through a filter of concepts that need to be psychologically meaningful. The child has to orientate himself to concepts and as he assigns meaning to them relations are formed. In the performing of this task language plays an increasingly meaningful and important part. It follows that the child must know and understand the language, because the relations with things and ideas are primarily cognitive relations. When studying the child's relations with objects and concepts one is not concerned with the nature and quality of relations. The primary concern is with the meaning assigned to a concept. Because of the infinite spectrum of meaning – the world consists of all and sundry – we move the emphasis to: **HOW DOES THE PRIMARY SCHOOL CHILD ASSIGN MEANING TO OBJECTS AND CONCEPTS?** We therefore need to take note in a concise manner of the characteristics of the cognitive abilities of the primary school child.

5.3.4.2 The primary school child's cognition

When the child enters school, his language development is such that he can communicate effectively. His vocabulary is large enough to follow the teaching. The senses of the healthy child have developed almost to their optimum. He can see, hear, smell and taste. Perceptually he can assign meaning to sensations. Abilities such as memorising, recognition, integration and differentiation are already adequate. This makes cognition at a high level possible.

(a) CONCRETE OPERATIONS (PIAGET)

Attention must be paid to certain features of cognition since they are recognisable as means of orientation. According to Piaget the primary school period is the period of concrete operations. An operation may be defined concisely as an act of thinking. The child is now able to apply logical ways of thinking to concrete problems such as “concrete” objects and events. He is still incapable of solving hypothetical problems that are totally verbal. This is only attained during adolescence.

The most important feature of logical operations is the designing of schemata (= representation images) by means of ordering and classification. Improved concepts of causality, space, time and speed can now be observed. Logical operations are internalised cognitive activities that enable the child to reach logical conclusions.

These logical operations are directed by cognitive activity and meaningful and structured representations/images rather than dominated by perceptions – as is the case with smaller children. These logical operations that can also be described as representations of meaning or structured knowledge have developed from earlier structures by means of assimilation and accommodation. These operations should not be seen as the result of significance attribution as though meaningful representation images were fixed and available for later use. Piaget stresses the fact that operations always have these four features: (1) An operation is an action that may be internalised or executed – mentally or physically. (2) The action is reversible. (3) Any operation presupposes a measure of conservation. Conservation is the schematisation that the quantity remains the same regardless of changes in shape or position. His ability of conservation enables the child to comprehend that the quantity of plasticine remains the same irrespective of the fact that it may be modelled in the shape of a ball or a “snake”. Likewise the quantity of water (e.g. 50 ml) remains the same when it is poured from a wide bowl into a cup or into a narrow tube. Ten cents remain ten cents regardless of the arrangement of the coins. (4) An operation is never isolated. It is always related or attached to a system of other operations. During the primary school period these operations become logical operations i.e. they meet all four criteria. Reversability implies that the child is able to understand converse processes such as adding vs. subtraction and multiplication vs. division. Conservations of various measurables do not appear simultaneously. According to Piaget (1969) successes with conservation are reached in the following order: matter, numbers, mass, volume, length. By the end of the primary school years the child handles these concepts successfully, but the problems that he is capable of solving are concrete in the sense that his operations are conceptualisations of a piece of plasticine, ten bottle tops, a volume of water and the like.

(b) SERIATION (ORDERING IN SERIES)

This is one of the operations the child is able to perform at this stage. The pre-school child can compare objects by actually arranging them. The primary school child understands that if $A > B$ and $B > C$ then $A > C$. He is capable of keeping one variable constant and comparing the others to it. He can arrange objects according to a representation.

(c) CLASSIFICATION

The primary school child can classify according to more than one dimension at the same time. Criteria may exclude one another. Animals could for instance be divided into a class of carnivorous animals and a class of ungulata. Both these classes could be sub-divided into wild and domesticated animals for example. In this manner subclasses may be identified that share features common to both major classes. The part played by classification and induction in the formation of concepts as logical schemes is obvious. The primary school child – a fanatic collector of anything he comes across – also classifies. Initially he classifies according to perceptual criteria; gradually he turns to more abstract criteria.

Numbers are concepts inferred from the operations of classification and seriation. A cardinal number is a class. Five means a class or set of five elements: bottles, bottle tops, persons, cars, etc. The ordinal number is a relation. *Fifth* stands in relation to *fourth* and *sixth* in terms of size and position. An understanding of *five* presupposes an understanding of *fifth* and vice versa. Classification and ordination are interrelated and both are indispensable in the forming of concepts, especially of numbers. These concrete operations which the primary school child performs depend on two cognitive processes which Piaget calls assimilation and accommodation.

(d) ASSIMILATION

By this process new experiences are included in existing schemata.

A small girl saw an ostrich in the zoo. Her response was: "Look at that big rooster!" On seeing this strange object she had scanned her schemata and the only one that corresponded to this novel stimulus was *rooster*. This is an example of how new experiences are integrated into existing schemata.

(e) ACCOMMODATION

When the child wishes to internalise new experiences, he tries to assimilate them into existing schemata. If they do not fit, these schemata are revised or new ones are formed. Both these cognitive processes are called accommodation. The child referred to in the previous paragraph would take a closer look at the ostrich and compare its features with those of a rooster. Differentiation would take place

as soon as she realised that the previous assimilation had been unsuccessful. Should she hear the name, the new scheme "ostrich" would be formed by means of accommodation. All experiences of ostriches could then be assimilated in the new scheme.

Accommodation is responsible for the formation of new schemata (qualitative change) and assimilation for the growth or development of existing schemata (quantitative change). The balance between assimilation and accommodation he calls equilibrium.

The primary school child who has to orientate himself in his environment must – by means of significance attribution, integration and differentiation – find a balance between accommodation (or the designing of new schemata) and assimilation (the incorporation of experiences into existing schemata).

(f) CONSERVATION

Personal security and the experiences of safety rest on the conviction that the parent's love and acceptance of the child will remain unchanged. This also applies to the intellectual province. The child has to distinguish between reality and semblance; between the appearance of things at any given moment and their realities. The masks of semblance on the physical, social and intellectual terrain should not eclipse the reality of the essence. This does not only apply to a spoon that seems bent under water but also to the parent who scolds the child not because he intended to do so, but because he had got a fright. For the sake of his orientation the child has to distinguish with conviction between constants and variables in the appearance of things.

Conscious of the importance of conservation, Piaget conducted empirical research to establish how the child distinguishes between stability and apparent change during his development. Piaget's general theory of cognitive development can be stated (in a simplified form) as follows: *The child discovers conservation permanence while there are observable changes by means of reasoning* (Elkind 1947). Piaget believes that man's knowledge of reality depends not only on his experience of reality but also on his reasoning concerning the nature of reality. Permanence cannot be presented. It results from one's own mental activity, one's own logic and one's own assignment of meaning. It cannot be obtained by sensory perception.

The parent and teacher can only guide and assist the child to make his own discoveries. When the child is encouraged to discover conservations and permanence he is assisted in establishing intellectual

security. This forms a new point of departure for relations with his environment.

With regard to the formation of concepts attention is usually focussed on the static or constant aspects of a concept, i.e. the criteria by which we recognise the concept through generalisation. The dynamic aspect of concepts also deserves attention. When will a particular example no longer be a member of the concept? When will a particular dog-animal no longer be a dog or a particular apple-fruit no longer an apple? This dynamic aspect leads to accommodation and supplements the scope of conservation.

(g) GENERALISATION (BRUNER)

Jerome Bruner (1959) describes the internalisation of experiences in terms of enactive, iconic and symbolic representations. For the primary school child iconic representation predominates. The child forms images of his experiences which are then organised in such a manner that manipulation is made possible. Generalisations formed on the strength of indiscriminate mechanical memorising "are the naked and useless untruth" (Bruner 1959, p. 185).

This statement by Bruner stresses the uselessness of mechanical memorisation *per se*. The reproduction of a memorised fact which the child does not understand or which he is unable to place in context is senseless. As far as the child is concerned, it does not have a single characteristic of truth. The relevance of concrete operations to image (iconic) formation indicates how Bruner's views are related to those of Piaget.

5.3.4.3 Synopsis

From our point of view where the emphasis is placed on the child's orientation in his life-world the formation of meaningful relations are extremely important. Piaget's concept of conservation is very relevant to the child who has to orientate himself. The child is confronted by changes daily. His world expands beyond the boundaries of home, school and community (by means of pictures, radio and television) and he has new experiences to which he has to assign meaning. Because he matures, he continually sees the world from new vantage points that appear as a result of an increase in physical, perceptual and cognitive functions. The child's ability to face the continual change is

founded on a conviction that there is stability.

Significance attribution is a central category in the life of the developing child. He is capable of making *representations* of his perceptual experiences *as he understands them*. These representations depend mainly on images which he organises in a logical manner in order to form generics by means of differentiation. These generics (generalised images) are concepts of which the scope widens as the child's experience with them increases. Gradually he handles and manipulates them better in his thinking. Significance attribution can only take place when the child is totally *involved*. Bruner stresses the active representation among small children and indicates further that internalisation of representations/images and symbols is accompanied by organisation (mental activity) in the formation of abstract concepts. Piaget emphasises the importance of mental activity when he refers to operations: "... the additions of two numbers, are actions characterized by their very great generality since the *acts* of uniting, arranging in order, etc. enter into all coordinations of particular actions" (Piaget 1969, p. 96). Significance attribution is only possible where there is mental activity demanding the involvement of the child. Each time the child assigns meaning to a situation he experiences success and satisfaction. These experiences give a unique character to the meaning he assigns to components of the situation or the situation as a whole.

5.3.5 The child's relations with himself

5.3.5.1 *The nature and meaning of the self-concept*

Apart from all the things the child has to get to know such as people, their attitudes, their behaviour and language, and all the objects that he might use or which might bar his way, he also has to get to know himself. This includes his body, his sensori-motor, perceptual and conceptual abilities. He gets to know himself through recognition but also in his relations with things and people. He applies subjective criteria to these relations for judging his own success.

The self-concept (the result of his relations with himself) is an integrated structure of perceptions, ideas and attitudes which the individual has formed of himself. The primary school child already has an established self-concept. In other words: he understands himself. His self-concept represents what he understands of himself. The self-concept is dynamic. It comprises perceptions and ideas concerning his developing body and maturing self, as well as attitudes towards himself

that are open to change. During his primary school years the child gets to know himself in a wide variety of new relationships. His conceptions of himself will not only develop and expand, they will also change both positively and negatively.

Experience moulds the self-concept but the self-concept plays a dynamic part in the choice of experience, the participation and the assigning of meaning to such experience (Felker 1974). The self-concept is important. It determines an individual's behaviour in a wide variety of situations. "The child indeed becomes that what he thinks he is" (Yamamoto 1972, p. 83). The meaning of the self-concept (a person's idea of himself) not only influences the quality of his involvement in situations but determines it to a large extent. Felker (1974, p. 7) has a three-fold view of the role of the self-concept: (1) The self-concept is the medium by means of which a person maintains inner stability. (2) The self-concept determines how experiences are interpreted (3) The self-concept determines the expectations the individual has of life.

The child does not enter the primary school with neutral experiences of himself. In his relationships with his parents and others he has already learnt that he is either good or bad/naughty; that he is accepted or rejected: that he has to fight for acceptance or hide from over-protection. He will therefore be inclined to behave in school in such a manner as to get confirmation of his ideas of himself. If the teacher should bring it to his mind unequivocally within the first few days that he is naughty, it would simply confirm what he believes of himself – and so he carries on.

The child who enters school with a negative self-concept is inclined to interpret all new experiences in that light. All the actions taken by a teacher will be interpreted negatively by the child with a negative self-concept – even though all the other children may interpret the action as highly positive. The self-concept is like an internal filter that gives meaning to all incoming perceptions or relates these to the person's idea of himself (Felker 1974, p. 9). A particular perception may be interpreted with either a smile or a frown – depending on the person's self-concept.

Since the self-concept is stable and since it is the person's conviction concerning himself, the person believes that all future experiences will be equivalent to this conviction of himself. One who accepts himself expects other people to accept him too and he acts accordingly. In order to maintain the stability of this self-concept he behaves in such a manner as to ensure the expected behaviour towards himself. Thus the self-concept is a determiner of behaviour.

5.3.5.2 Development of the self-concept during the primary school years

Since the self-concept is dynamic one should expect considerable changes and expansions of it following an increase in experience and ability. These changes are directly proportional to changes of relations with parents and the constituting of relations with teachers and playmates. Because of personal involvement the development of physical and mental abilities will also play a meaningful part.

The variety of persons – first the parents, then the teachers and playmates – who consecutively and intermittently act as models and evaluators contributes a great deal to the child's becoming independent. The "omnipotent" parent's role is now shared by the teacher. The child now disobeys the parent because "Teacher said so . . . !" The teacher becomes a better model because "She is prettier than mommy". Parental authority is also questioned as a result of the child's identification with the age group. If the mother should insist on his wearing a jersey he will defy her if the other members of the group do not wear jerseys. Achievements in sport and displays of manliness are highly valued in the peer group. This contributes significantly to self-evaluation.

The primary task of the school is its concern with intellectual activities. The child has to learn in accordance with the rules of the school and he has to stay occupied with cognitive activities in which he experiences success as well as failure. If possible he will avoid those subjects in which he is unsuccessful. Such an occasion arises in high school where he has to choose his subjects. Expectation of success in a subject is a more important criterion than the occupational possibilities the subject offers. At times he will create such an occasion by hiding in the wash rooms during a particular period or by playing truant.

The child's self-concept will develop in the primary school. It may be predominantly positive or predominantly negative. For the greater part it will develop unconsciously rather than consciously. One of the most important contributing factors in this respect is the challenge of designing a system for making a stand against success and especially for resisting failure and incompetence. As the degree of difficulty of learning tasks increases the child continually has to face up to the possibility of not being able to cope. The child who encounters problems in mastering tutorial material always regards this possibility of incapability a threatening monster. Since the child is involved in school activities for such a considerable part of his life, the school plays both a critical and decisive part in the forming of his self-concept. The child who develops a system that functions efficiently in the handling of his successes and failures,

may nevertheless constitute a very positive self-concept. The child who does not have such a system internalises every mistake and everything indicative of inefficiency into the self-concept – and the burden becomes heavier day by day.

The question arises: What can the teacher do to assist the child in this respect? (See Felker, 1974, p. 64.)

5.3.5.3 *Characteristics of the child's relations with himself*

The child's relations with himself are evident in his self-concept. This self-concept has particular features.

- (a) *The self-concept is dynamic* (Rogers 1965; Combs and Snygg 1959; Sullivan 1973). The self-concept develops as the child grows older. It is always subject to change depending on the experiences of the person. During adolescence it probably reaches a measure of stability but until then it is dynamic.
- (b) *Every individual strives at conducting himself in such a way that his behaviour resembles his self-concept* (Purkey 1970). The Gestalt of a person's self-conceptions is his self-concept. This self-image is his interpretation of himself. It is he. His spontaneous actions will necessarily be related to this interpretation. If a person underestimates himself and if he is convinced that he is not capable of success, his attempts at success will reflect this conviction. For this reason a person's behaviour is an indication of his self-concept. It will probably not always be inferrable unequivocally. In contrast to this equivalence of self-concept and behaviour, Festinger (1962) claims that dissonance, the mental condition of confusion, which indicates that someone is ill at ease, is caused when a person is forced to act in a manner which is incompatible with his convictions about himself.
- (c) *There is interaction between self-concept and achievement.* We are not referring here to cause and effect but there seems to be a strong mutual relationship between these two phenomena. Barrett (1957) discovered in his investigation of talented children whose achievements were below their ability that feelings of inefficiency caused them to withdraw and to refuse to compete. Brookover (1965) found that changes in the self-concepts of children were related to corresponding changes in scholastic achievement.

Many investigators (cf. Purkey 1970, p. 25) have done research on the relationship between the self-concept and the experiencing of success or failure. They have found a significant drop in self-esteem among children who were under-achievers. Centi (1965) as well as many others have found that poor achievement leads to a lowering

of the self-esteem. Diller (1954) and Bills (1959) have found that successful achievement had elevated the self-concept of students.

These references confirm that there is a strong mutual relationship between a pupil's self-esteem and his successes. As yet there are not indications of which comes first: a positive self-concept or experience of success. What is of primary importance, however, is that this "reciprocal relationship . . . gives us reason to assume that enhancing the self-concept is a vital influence in improving academic performance" (Purkey 1970, p. 27). It seems possible therefore for the teacher who wishes to support the child that he may progress on his way towards independent self-realisation, to play a significant role in this field.

5.3.5.4 Components of the teacher-pupil relation advantageous for a positive self-concept

(a) THE TEACHER'S CONVICTIONS ABOUT HIMSELF

Many studies (Berger 1953; Fey 1954; Luft 1966) indicate that there is a clear correlation between a person's opinion of himself and his opinion of others. One who accepts himself is inclined to accept others. One who rejects himself is inclined to reject others. Combs and Snygg (1959) found that successful teachers could be identified on the ground of their self-esteem. The information indicates that teachers with self-esteem who accept themselves are in a better position to establish relations with children that will enable them to construct realistic and positive self-concepts. Felker (1974) recommends on the strength of his research, that teachers should praise themselves in front of children in view of the child's identification with the teacher. Such a method should be used judiciously – and only as a teaching technique – in order to get the child to admit his own success.

(b) THE TEACHER'S ATTITUDE TOWARDS CHILDREN

Especially in the primary school the child considers the teacher very important and gladly identifies himself with the teacher. It is important therefore, that the teacher should take a positive view of the child and have noble expectations of him. By expecting a better quality of work and better performance from the child in such a way

that he is genuinely aware of these expectations, the child is encouraged to meet these expectations. This enhances his self-esteem. Lang (1960) found a positive correlation between the child's self-perception and his perception of the teacher's attitude towards him. It follows that the more positive a child's perception of the teacher's attitude towards him the higher is his scholastic achievement. Brookover, Erickson and Jonier (1967) also conclude that the child's performance is related to his perception of the teacher's evaluation of him. It appears that if the teacher believes that the child is capable of better achievement he is inclined to improve his performance.

(c) REALISTIC GOALS

If a person has unrealistic or unreasonable goals he accepts an unrealistic standard of evaluation. It has been found that children with negative self-concepts have goals that are unrealistically high or unrealistically low. If the goal is unrealistically low, reaching the goal is no achievement. The person reaches the goal but perceives of it in such a way that *even he* can do it. It can happen if the goal is unrealistically high that it is perceived of as realistic in which case he is bound to fail. This would then confirm the negative view he takes of himself. The child with a low self-concept often hides behind unrealistic goals which he knows beforehand he cannot reach. The common encouragement *set your sights high* often leads to the setting of unrealistic goals.

Realistic goals must meet the following requirements: (1) They must be individual; (2) they must be proportionate to previous achievements; (3) they must be ordered. Besides immediate goals one should have ultimate goals, since all scholastic work is graded according to quantity and difficulty.

By helping children to formulate realistic goals one enables them to reach success that they recognise and experience as such.

(d) PRAISE FOR SUCCESS

Praise for success – a star; a *well done* or high marks – makes the child happy. Everyone likes to hear that his work has been done well. The child with a negative self-concept ignores his success by rationalising: "Anyone could have done that" or: "It was sheer luck" while he hankers for praise. If one likes hearing "well done" one will also know the enjoyment of saying to oneself: "well done".

Since one is critical when setting one's own standards one does not mislead oneself with "well done" unless one is convinced of the success.

One really helps a child to actualise a positive self-concept by helping him to recognise his success and by encouraging him with a "well done". The child with realistic goals who recognizes his own success is more capable of recognising and sincerely applauding the success of others.

(e) THE ATMOSPHERE THE TEACHER CREATES AND MAINTAINS IN THE CLASSROOM (PURKEY 1970)

The teacher is mainly responsible for the atmosphere in the classroom. An atmosphere advantageous to the development of a favourable self-concept has the following qualities:

(i) *Challenge*. A challenge can incite children to better performance if the teacher explains until the chances of success are high and then says: "The completion of this assignment is difficult and requires hard work, but I think you can do it." To secure the right effect the teacher has to choose the right moment; the confidence he enjoys is at stake. Furthermore the situation must be such that the children will assign such meaning to it as to value success in it.

(ii) *Freedom*. Self-esteem can hardly develop in an atmosphere where there is no liberty. During his self-realisation the child should have the liberty to take such decisions as he considers to be meaningful. Sarason (1961) has indicated that anxious children perform poorly only when they see the task as a threat. If children with a high level of anxiety are told that it is natural to make mistakes and that mistakes are to be expected then their performances are often better than those of children who do not suffer from anxiety. If the atmosphere in the classroom is such that the child feels free to try and even to make mistakes without fearing something dreadful, then there is scope and opportunity for the development of self-esteem.

(iii) *Respect*. If the child is treated with respect it enhances his self-respect. If a child is humiliated, embarrassed and confused it creates disrespect for himself and for others.

(iv) *Warmth*. Only with absolute dedication can a teacher create an atmosphere in which the child feels important, accepted and valued. Coopersmith (1967) says that a child accepts himself only if he is accepted by others.

(v) *Control and discipline*. Firm action – where the child knows what may and what may not – mingled with a high degree of respect and

love promotes the development of a positive self-concept. Coopersmith (1967) found that there is a relationship between permissiveness and low self-concepts.

(vi) *Success*. After studying a great many research reports Wylie (1961) came to the conclusion that students changed their self-evaluation after success and failure had been experimentally controlled.

The experience of success, i.e. success to which the child assigns meaning, has been the central concern of this whole study regarding a positive self-concept.

5.3.5.5 *Synopsis*

The child's relation with himself crystallises in a positive self-concept which means that he values himself, accepts himself, respects himself and believes in himself or – on the other end of the scale – in a negative self-concept which means that the child believes that he is inefficient and incapable of success. Many variations and combinations appear on this continuum since each person has a host of self-conceptions. The structured Gestalt of self-conceptions is the self-concept. It is the filter which evaluates experience and selects and assigns meaning to expectations.

5.3.6 The child's relation to the Lord

This relation is of a religious nature. The question is: How does this relation manifest itself in the religious situations in which the child is involved and what effect does it have on his other activities?

Religion cannot be discussed in abstraction. We are referring here to the child who grows up in a Protestant Christian home.

The child cannot give meaning to religion on his own although, by the time he goes to school, he has already given thought to life and death and a life hereafter. The possibility of developing a religious attitude is closely related to the quality of the parent's religion. In a climate of pedagogical love the parent's life embodies the meaning religion has for him. The parents do not only teach the child to pray. He sees them pray; he sees them live their religion; i.e. he sees the relation between their religious profession and their lives. Thus an attitude develops which is indispensable for a religious relation.

The primary school child goes to Sunday school. This is supplemented by the lessons in Scripture prescribed by the school syllabus. He

gets to know a lot about the Bible. However, he has to give meaning to it in his personal capacity. Since the child is in the concrete operational stage of cognitive development his image of Jesus and of God will be palpable. The content of his prayers will be mainly egocentric, concerned only with his own needs and problems. He will doubt many Biblical occurrences because he has to assign meaning to them. Miracles and the omnipotence of God pose no particular problems because he sees his parents as being capable of almost anything. They can even supply him with moral and religious judgements.

In spite of such problems as imitation, participation, identification and conforming which affect the child's assignment of meaning to religion either positively or adversely, there are many testimonies of genuine conversions during the primary school years. These conversions remain stable throughout adolescence and during adulthood. An increase in significance attribution is accompanied by intensity of experience. A particular characteristic of the primary school child's religion is his preparedness to accept the Biblical story and the facts of Salvation unconditionally in spite of the fact that he finds it difficult to give meaning to spiritual truths.

5.4 THE LIFE-WORLD OF THE PRIMARY SCHOOL CHILD

We have continually referred to the child's orientation in his environment. He cannot orientate himself unless he has knowledge of or assigns meaning to people and objects in his environment. Significance attribution demands that the person should be totally involved in the action. His cognitive, affective and volitional abilities and his expectations each play a part in the nature of his involvement. This knowledge depends on a fundamental cognitive structure because a knowledge of concrete objects and ideas is internalised and assimilated within a structure of meanings. As a result of such meanings the child is orientated towards people, things and ideas.

This integration of interacting relations which the individual has established and of which he is the centre point or, at least, one of the poles in a multitude of relations is called his life-world. This includes the whole world in which he lives. The relations with some objects or concepts will be highly meaningful and thus very important to the person while the quality of some of the other relations will be sparse and diffuse in respect of meaning and consequently of little importance.

The life-world of a person (child) is the integrated structure of interacting relations which he has constituted.

In spite of many individual differences and the uniqueness of the qualities of the relations which a person constitutes, there is nonetheless so much common to these relations that one can speak for example of the life-world of the primary school child.

The life-world of the primary school child incorporates the relations discussed in this chapter. It should be kept in mind that, since the individual is the core of these relations, his relation with himself will be the core of his life-world. His self-image (self-concept), the result of this relation with himself, is formed mainly through his relations with people and objects. On the other hand, his self-concept strongly influences the quality of other relations. Thus a child who, in his relation with his parents, forms an idea "I am clumsy" will approach gymnastic apparatus with trepidation in the secondary school and his chances of failure will be high.

The relation with parents is qualified by love which implies mutual knowledge, care, responsibility and trust. A child's behaviour is directly linked to his relation with his parents. If a child interprets his parents' attitude as hostile, the same aggression manifests itself in his behaviour. The parent who educates his child according to strict rules gives him security and diminishes his doubt and anxiety. As the child develops independence he internalises the norms that his parents have presented to him. He develops habits of cleanliness and decency as well as attitudes towards groups and institutions. If the parent accepts the child, he enables him to accept himself, thereby enhancing the child's self-concept. Encouragement, support, acceptance and respect are necessary to teach a child language and the meaning of objects as well as of the behaviour of his friends.

The manifestation of the parent-child relation accentuates the entwinement and mutual influence of the other relations.

The relation with peers is indispensable for the child's self-realisation. The peer group forms a safe basis for identification and conformity. It provides the place and opportunity for practising independence. The norms of the parents and those of the peer group are practised among equals. Evaluation and acceptance by friends support the development of a positive self-concept.

The development of relations with objects and ideas depends on examples and explanations. These are understood as the cognitive abilities develop. The support and guidance of parents and teachers enable the child to stabilise cognitive relations on the grounds of understanding and experience.

An own identity and evaluation is established in relation to other persons and things. This self-concept becomes the anchorage point or point of reference which directs the nature of future and developing relations.

The horizon of a child's life-world at a given time encloses the relevant relations that have been established. The child is orientated towards anything with which a meaningful relation has been formed. The religious relations of the pre-adolescent are probably the most diffuse of all. During adolescence religious experiences become fixed and their influence is transferred to other spheres of life.

The language development of the child

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CHAPTER 6

The language development of the child

6.1 INTRODUCTION

The use of language is the most characteristic function of the human mind. From the earliest years until adulthood the child is constantly engaged in improving his linguistic powers. Everything that he learns is to a certain extent dependent upon his knowledge and control of language; hence the enormous importance of language with regard to education. Linguistic competence is a prerequisite, not only for all school activities but for the whole of the child's mental development. Indeed, we might say that language is the basic condition for all human development. Our insight into the child's cognitive, emotional and volitional life depends very largely upon his ability to understand and use language.

For many years past there has been considerable interest in the manner in which a child acquires a mastery of language. The early studies in this field were mainly biographical, consisting of descriptions of a single child's use of language during the first two or four years of his life. Later, when better methods and techniques had been developed, larger numbers of children were subjected to accurate tests.

6.1.1 How language is acquired

Generally speaking, the child's linguistic development depends upon and is the product of the inseparable and interactive influences of *maturation* and *learning*.

As far as maturation is concerned, it is self-evident that a child who is born deaf, dumb or blind will be seriously, if not permanently, handicapped as far as his linguistic development is concerned. There are certain speech-sounds which a baby is not capable of uttering until he has

reached a certain stage of physiological and intellectual maturity.

When the child has reached this level of maturity, the language he learns to speak can only be that which he hears from his parents and from other adults. Of all the phenomena involved in education, language usage is the clearest manifestation of educational communication between the child and adults with greater powers of significance attribution.

Linguistic development is a long and continuous process of learning which moves from simple and undifferentiated usage to the complex, varied (e.g. by the discontinuance of some sounds and the addition of others, and the acquisition of a vocabulary) and differentiated language which the child understands and uses as a means of communication with others.

The pre-vocal gestures of early infancy are the precursors of language. They occur by way of reaction to various stimuli and are intended to convey certain meanings to parents and other adults.

Language really begins when the child's general reactions to a number of diverse stimuli include a fixed range of vocalisations. The adult (particularly the mother) soon learns to distinguish these sounds as expressions of pain, hunger, misery, pleasure, etc. These early cries or vocalisations, like the child's gestures, are mainly emotional and conative in character (i.e. they express desires), but they soon acquire external significance in the sense that they enable the child to commune with or to control adults. (The element of cognition or apprehension does not become the decisive factor in language until somewhat later.)

6.2 VARIOUS STAGES IN THE CHILD'S LINGUISTIC DEVELOPMENT

6.2.1 The first sounds (pre-linguistic control)

The first sounds uttered by the new-born baby is the birth-cry, a reflex caused by the rapid passage of air over the vocal cords.

M.M. Lewis remarks in this connection: "Even this first cry could well be regarded as the child's first step in speech, for he has made a sound which others interpret – 'the child is here among us'. But not to press this too far, we can certainly say that speech begins with the next kind of cry that the child utters: when he cries in a state of discomfort and his cries bring someone hastening to him" (1957, p. 14).

Investigators agree that the child's first expressions are vocal sounds of one kind or another. The sounds generally occur in response to conditions of comfort or discomfort.

Lewis says that cries resulting from uncomfortable conditions (pain, hunger, cold) are the first to occur. These *discomfort* sounds are shrill and nasal. Later, the child begins to make *comfort* sounds: they are more relaxed and deeper in quality than the *discomfort* sounds, and have few nasal characteristics or none at all. Investigators also agree that the first consonants (or sounds resembling consonants) that can be distinguished are the nasal *m* and *n* and the preconsonants *p* and *b*. These can be heard "to modify the early vowel sounds into syllables" (Carmichael, 1960, p. 56).

6.2.2 The babbling stage

This is the second stage in the development of a baby's prelinguistic expressions.

"After the first acquisitions of sounds there seems to be a rather rapid increase in the variety of sounds, so that by the third month most observers of infant behavior report cooing and babbling, which continue until about the end of the first year when the first words are heard" (Carmichael, 1960, p. 506).

At this stage the earlier reflex cries are followed by spontaneous babbling, practice in the production of sounds, and the repetition of sounds. "Die kind speel as't ware met en op sy spreeksnare en -orgaan" (Coetzee, 1960, p. 130).

The sounds uttered at this stage have an additional function – a social one. The child feels an urge to reinforce the psychic contact between himself and other people – a contact which has existed since the first few weeks after birth – by means of primitive vocal expressions. The sounds he utters are his primitive means of connecting himself with other people: that is why he *talks* when his mother *converses* with him. This response forms the basis for speech in a future stage.

The urge to imitate is very strong at this stage, and by the time he is about six months old the child's *vocabulary* of expressive sounds or babble-talk has been considerably enlarged and contains a wide variety of sounds. This babble-talk is incomprehensible; nevertheless it enriches the child's stock of sounds, sound-combinations, rhythms, etc. – elements which will provide the material for subsequent speech.

The early functioning of speech may be seen in terms of:

- (a) the active utterance of babbling sounds;
- (b) incomprehensible mimicry; and
- (c) understanding what is said to him.

These three activities are at first independent of one another. The moment that they converge and begin to function in unison, we have the beginning of true speech.

The child's vocal expression or babble-talk becomes more comprehensible as he grows older. At the same time there is a reduction in the number of incomprehensible sounds that he makes. The reduction is particularly rapid between the ages of $1\frac{1}{2}$ and $3\frac{1}{2}$ years. At $1\frac{1}{2}$ years, about a quarter of the child's linguistic expressions are comprehensible. At 2 years, two-thirds of them can be understood, at 3 years nine-tenth and at $4\frac{1}{2}$ years 99.6%.

6.2.3 The concept of language (i.e. of understanding words)

A subsequent phase of development relates to the child's understanding of the language used by others. He begins to understand what people say, and his own babble-talk becomes comprehensible. There appears to be a glimmering of awareness, a vague concept of language and speech, accompanied by the will and the desire to master these things.

So far the child's vocal expressions have had no specific meaning; he now learns that everything has a name.

A child understands the language that he hears long before he can use the language himself. Gesell (Brooks, 1939, p. 181) established after carrying out various tests on children of nine months that at least half of them had *passive* vocabularies, i.e. they were capable of reacting to certain words. For example they would look around them when asked "where is the cat?". This indicates a certain measure of understanding.

During the second year of life there is a tremendous increase in passive understanding as against active speech. By 18-24 months most children can point out objects in a simple picture. From 2-3 years onwards, children can understand verbal commands, for example to place a ball *on* or *in* or *behind* or *in front of* a box.

6.2.4 The first word

From the above it will be clear that a considerable amount of linguistic

development has taken place before the child speaks his first real word. Very often the fortuitous enunciation of a word by a small child is mistakenly regarded as true speech. Indeed, one can never be quite certain of the meaning of a child's first word; for example he may say "dadda" to his father or to his mother or to other people, or even to a chair. Usually the first meaningful articulated sounds uttered at this stage, i.e. at the beginning of *word* language, whether the word is *dadda* or *mamma* or some other word, are expressions of the child's emotional or aspirational life.

Objects, people, events and situations all have meaning for small children in so far as they are in constant contact with them. For him, their significance consists in the manner in which they affect him. He pushes, pulls, hits, tastes, rubs, turns, looks at, listens to, smells, throws, drops and rolls any object that can be treated in these ways. These actions determine the meaning and name of the object concerned. In the course of these experiences with objects he determines their worth or evaluates them. In this way they acquire particular meanings for him and he connects these meanings with their names. From his actions with and reactions to objects he deduces the meanings of their names. Thereafter these names are coloured by their meanings for him. If he is asked the meaning of a car, a chair, a shoe and a spade, he will reply that a car is "what you ride in", a chair is "what you sit on", a shoe is "for putting on your foot" and a spade is "for digging with". Thus the meaning, for him, lies in the action or activity connected with each object and goes no further than this.

Moreover, a small child understands many words which he has never used and will not use for some time to come. If we were to draw two curves representing respectively the vocabulary of words understood by the child and the vocabulary of the words he actually speaks, the curves would diverge more and more as the child's age increased.

The child's discovery that words are a means of making his desires known (e.g. the word "water" or "drink") is an important incentive to speech.

6.2.5 The one-word sentence

The next stage of linguistic development is the word-sentence way of speaking. Very early on, the child uses a single word as a sentence, i.e. to express the meaning normally conveyed by a whole sentence. The meaning that he wants to convey resides in the way in which he enunciates the word, his bearing and intonation, his gestures and facial expression. If for example he wants a ball, he may extend his hand eagerly

towards it and, with a look of longing in his eyes, say "ball". His whole bearing and the manner in which he says the word express his desire to possess the ball. The single word "ball" has thus become a sentence – a desire expressed by the child – and if his mother does not react quickly enough to his word-sentence he may become angry and begin to kick and jump about or burst into tears. He expects everyone to understand his word-sentence because his bearing and gestures do much more than the word alone could do; that is why we speak of the word-sentence. For this reason, moreover, a child's first words are usually more than mere words: they are word-sentences. Thus, if the child says the word "ball" he may mean any of the following things: "Give me the ball"; "Let's play with the ball"; "I have a pretty ball"; "I like my ball"; "This is my ball"; and so on.

6.2.6 The sentence

Soon the child is able to use more than one word, and he now begins to compose sentences. The one-word sentence is expanded and more words are used. By $1\frac{1}{2}$ - 2 years most children can use two words in correct conjunction. Soon after this the child begins to use three words at a time. Meanwhile his thought processes are developing along with his language. At first, additions to his vocabulary consists exclusively of nouns, for at this stage he is mainly engaged in learning the names of people, animals, places and things. But presently he begins to use verbs as well, and to formulate his first questions. He now realises that everything has a name, and asks succinctly: "Who this?", etc. It is at this stage that he uses the negative (*no*) for the first time – *yes* does not occur until later. The meaning of the word now represents the image of the person or animal or object concerned.

Some two-year-olds and 75% of three-year-olds are capable of using pronouns (I, you, me, etc.) correctly. The language used by the young child relates mainly to himself: hence the high frequency of the first personal pronoun. However there are already faint signs of social purport, since his utterances are usually directed at another person. In these *conversational* soliloquies or pseudo-conversations the child is ostensibly talking to another child or other children, but actually talking to himself. This *egocentric* language is later replaced by a more socialised one. The egocentric language reflects the relationships the child is forming with the people and things in his life space.

During the third year there is an increase in the use of words other than names. However it is difficult to place the words used by the young child into grammatical categories, since the same word may be used as

several different parts of speech. Adverbs of time and place are now used for the first time. This is also the phase of innumerable questions, including questions about sex. The word-order of the child's sentences sometimes deviates from normal usage, e.g. "Where Daddy going?" During this period the child forms new words by analogy, e.g. *talken* from *fallen* (or in Afrikaans "gebegin" from "geloop") and – also by analogy – uses familiar words in unfamiliar circumstances, e.g. he may know that his dog has "fur" and therefore speak of the "fur" (feathers) on his mother's chickens. Compound sentences are now formed, and prepositions come into play for the first time. At the same time there is an appreciable increase in verb forms (tenses and auxiliary verbs), pronouns and conjunctions, and a general enlargement of the vocabulary.

After the third year new parts of speech are introduced as a result of the child's greater maturity and more developed powers of thought. During this period children are fond of talking aloud when they are alone, and of explaining what they are doing while they are doing it.

After the age of four abstract nouns begin to appear. The child is now genuinely interested in language and tries to use correct word forms and structures. By the time that they are four or five years old, most children can define words like *chair, horse, fork, doll, pencil*, etc. The meanings given by way of definition *usually reflect the essential use of the object*: for example a chair will be defined as "a thing to sit on" and a pencil as "a thing to write with". A group of three-year-olds can use one or more descriptive words, and by the age of five some children can describe a simple picture.

Length of sentences: The number of words per sentence increases from an average of 1.2 at 18 months to about 4 at $3\frac{1}{2}$ years and 4.5 at $4\frac{1}{2}$ - 5 years (Carmichael, 1960, p. 546) in accordance with the child's intellectual development, linguistic environment, the particular occasion, and so on.

Sentence structure: According to McCarthy (Brooks, 1939, p. 185) sentences which are functionally complete but structurally incomplete are not very common between the ages of $1\frac{1}{2}$ and $4\frac{1}{2}$ years. At first the child uses simple sentences, but in the course of time the proportion of complex, compound and complicated sentences increases. This tendency towards more complicated sentence structures (e.g. inflection, the past and future tenses) persists throughout the primary school years, and the length and construction of sentences usually give a good indication of a child's linguistic development.

In conclusion, we must remember that in the early stages of linguistic development the child does not begin by learning single words and subsequently goes on to put them together in sentences. On the contrary, it is more usual for a child to begin by learning a whole sentence in con-

nection with particular situations, differentiation of the words that make up a sentence is only possible after a good deal of experience. These whole sentences should be regarded as units of meaning. It is in this form that language becomes a meaningful medium of communication for the child and thus makes education possible.

6.2.7 Expansion of the vocabulary

Types: A child's vocabulary can be divided into the following types, thus highlighting the expansion of significance:

- (a) an auditory or passive vocabulary: the number of words the child can understand when they are used in conversation;
- (b) an oral or active vocabulary: the number of words the child uses in his own speech;
- (c) a written vocabulary: the number of words used in written work; and
- (d) a reading vocabulary: the number of written words that the child understands.

Methods of study: The oldest and best-known method of studying children's vocabularies consists in writing down all the words that a child utters during a certain period of time, sometimes a whole day. Another method consists in writing down all his verbal reactions for brief periods over one or more days. Objects such as toys, books, pictures, etc., are used to induce the child to speak. Sometimes responses are evoked by means of questions. Without assistance, one person cannot possibly write down all the words that crop up: children talk too much for that.

Brandenburg (Brooks, 1939, p. 185) found that a child of 3-4 years is silent for only 19 minutes per day.

Size of vocabulary: After carrying out vocabulary tests, M.E. Smith came to the following conclusions: at 1 year the active oral vocabulary consists of about 3 words; by two years it is just under 300, and at 3 years just under 900. After this the vocabulary expands very rapidly, and at 4 the child knows about 1 500 words, at 5/2 000, and at 6/2 500 (Carmichael, 1960, p. 533).

The proportions of parts of speech in the vocabulary vary considerably in accordance with age. At two years 50-60% of the child's vocabulary consists of nouns. The percentage of nouns and interjections decreases as the vocabulary expands, and there is a simultaneous increase in the percentage of verbs, adjectives, adverbs and pronouns.

The more his vocabulary expands, the less frequently the child makes use of unrecognisable and incomprehensible expressions. The ability to

pronounce words clearly may lag well behind the development of a reasonably large vocabulary. An increasing control of language is not merely a matter of adding *new* words; it also involves a deepening understanding of the meanings of *old* words.

6.3 FACTORS INFLUENCING LINGUISTIC DEVELOPMENT

6.3.1 The inborn disposition towards speech

Speech, in the sense of articulated sounds formed by means of the lips, the tongue and the vocal cords, is an inborn proclivity – the distinctively human gift granted by the Creator to man alone – which finds expression of its own accord and without any external encouragement.

Experiments in the field of speech development indicate that this capability must develop: it cannot be forced. As we mentioned in our introduction, the child's linguistic development results from the combined influences of maturation and learning.

Besides age, maturity and education, which we regard as the fundamental developmental norms, linguistic development is influenced by a number of other factors, such as:

6.3.2 Physiological factors

The child who enjoys perfect health and is consequently active and full of life, has more energy and is more in contact with life and a variety of situations than is the sickly child. He is also more lively and active, and takes more interest in his surroundings, than his less healthy contemporary. He will therefore react more full-bloodedly to his environment. All these factors will contribute to a better linguistic development than will be possible in the case of the sickly or physically weak child. Illness, particularly in young children, can make a considerable difference for it is in these early years that growth and development take place most rapidly.

6.3.3 Motor development and abilities

The growth and development of the child's motor control and skill also

influence linguistic development. While one or another of his motor powers is in the process of developing, linguistic development is retarded until the motor skill concerned has been mastered.

6.3.4 Social environment

The child's *social environment* has a tremendous influence on his linguistic development.

Linguistic ability and vocabulary are closely related to the socio-economic status of the family. The children of well-educated parents, or whose parents are professional people, have larger vocabularies and use purer language than do children from less privileged households. This difference occurs even among children belonging to the same intelligence groups. A privileged home stimulates the child's linguistic development.

Descocudres (Carmichael, 1960, p. 586) studied the vocabularies of children between the ages of 2 and 7 years, some of them from the more developed and well-to-do classes, and others from the less privileged working classes. He found that the upper-class children were on the average eight months ahead of their less privileged contemporaries at every stage. The retarded linguistic competence of the latter group was clearly due to the poverty of their cultural circumstances and opportunities and not to intellectual inferiority. Social circumstances exert an influence upon pronunciation as well as vocabulary. The pronunciation of slum children is distinctly inferior to that of children from well-to-do neighbourhoods.

6.3.5 Social intercourse

The nature of the child's *social intercourse* is another strong influence upon his linguistic development. For example, children who are often in adult company advance more rapidly from the linguistic point of view than other children do. Investigators (M.E. Smith among others) have found that association with adults has a stronger influence on a child's language than does his association with other children.

William and Mattson (Carmichael, 1960, p. 595) found that pre-school children are more talkative, and use a greater number of words per sentence, when they form part of a social group consisting of two children and an interested adult who is prepared to answer questions. This brings us to our next topic.

6.3.6 The function of language in the child's life in relation to linguistic development (both egocentric and socialised speech)

Here there are several questions of interest to the child psychologist and the educationist: Why does the child speak? What motivates him towards the use of language in certain situations? What needs does he satisfy by using language? What functions does language fulfil in the child's life?

The earliest biographical studies approached the problem by classifying reactions in terms of the old linguistic categorisation of linguistic units – i.e. sentences – as indicative, imperative, interrogative, exclamatory, etc. These categories were originally intended to apply mainly to written language. Consequently the system is inadequate for psychological analyses of the language of young children, and is a most unsatisfactory method of classifying the language spoken by adults, let alone children.

Snyder (1914) was one of the first investigators to point out the inadequacy of the conventional grammatical classifications. In her 1926 studies and elsewhere, M.E. Smith made provision for various subdivisions and variations of the ordinary categories. She pointed out that at all ages – even the so-called *question phase*, which occurs between the ages of two and four – indicative sentences outnumber imperative ones.

The publication of Jean Piaget's book, *The Language and Thought of the Child* (1926), inaugurated a totally new approach to the study of the functions of children's language and stimulated further investigations in this connection. Piaget was particularly interested in language as an expression of the child's thought processes. *He distinguished two types of speech: egocentric and socialised.* He was the first investigator to emphasise the role of egocentricity in the child's life, and claimed to have discovered its importance through adopting a functional approach to children's language.

When he uses egocentric language the child is really speaking to himself, and not to anyone else: he is holding an egocentric conversation. A group of children may play side by side with their toys, or build sand castles at the same time and in the same place, each talking to himself and paying no attention to the others. They are together whilst they are thus talking and playing, but they do not play together or speak to one another. In egocentric speech, says Piaget, "the child does not bother to know to whom he is speaking nor whether he is being listened to. He talks either for himself or for the pleasure of associating anyone who happens to be there with the activity of the moment . . . He does not attempt to place himself at the point of view of his hearer."

Piaget distinguishes three types of egocentric speech: (a) pure repeti-

tion, (b) the monologue (soliloquy) and (c) the collective monologue.

In contrast to this, socialised speech is a more advanced or adult form of speech among children. In this case the children really do converse with one another. Their speech is predominantly self-assertive, but it does include questions and answers, arguments, complaints about what others are doing, expressions of agreement with the actions of others, and commands concerning what others should or should not do.

Here he distinguishes five categories:

- (a) Information – “adopted information, which occurs when the child really exchanges his thoughts with others” (Carmichael, 1960, p. 563);
- (b) criticism;
- (c) commands, requests and threats;
- (d) questions; and
- (e) answers.

His data were derived from 1 500 remarks made by each of two children who were 6½ years old at the time. Approximately 38% of these remarks fell into the egocentric category. Only 45% consisted of spontaneous socialised speech, but an additional 17% consisted of answers which were classified among the socialised remarks, giving a total of 62% in this category.

He found that the percentage of egocentric remarks was higher between the ages of 3 and 5 years, and asserted that a definite increase in socialisation was traceable in the speech of children of about 7 or 8.

He implies that *adult* conversation is highly socialised and that egocentricity is a symptom of a psychological immaturity which is outgrown in the course of time. He found moreover that egocentric reactions occur more frequently in free play and in child-child situations than in adult-child situations.

Investigations carried out by Rugg, Krueger and Sondergaard (1929), and others, confirmed Piaget's findings. After analysing 3 125 remarks made by 27 kindergarten children, Rugg, Krueger and Sondergaard arrived at the following classification: selfassertion 40%; factual statements 16%; questions 10%; expressions of observations 8%; expressions of thought 6%; linguistic experiments 6%; dramatic play 5%; yes-or-no answers 4%; indications of social consciousness 4%; selfcriticism less than 1% (Brooks, 1939, p. 178).

From the above analysis we can see that children speak in order to *assert themselves* and to *exert influence*, and not for the sake of social intercourse per se. They want to make their presence felt, to attract attention, to command, dominate, argue and show off. In *Thought and Language*, L.S. Vygotsky expresses some other extremely interesting opinions on language development, but these cannot be discussed here.

McCarthy, the American child psychologist, adopted Piaget's classification but was obliged to introduce certain changes suggested by her own findings. She did not find as high a percentage of egocentric language as Piaget had done, though she agreed that egocentric reactions dwindled with increasing age. She added two new categories: social phrases and dramatic imitation.

6.3.7 Sex

It has been found that girls generally acquire language more rapidly than boys do. At the age when children are speaking in short sentences, girls have larger vocabularies than boys and during the earlier phases their language is more readily comprehensible than that of boys.

These differences with regard to vocabulary and comprehensibility diminish as the children grow older, and by the age of five or six years it is very slight.

During the school years girls once again outstrip boys as far as linguistic achievements are concerned: they do better in exercises involving word- and sentence-building, and they write longer essays containing longer sentences. On the other hand, boys do better at subjects involving calculation and hand-work. However it cannot be established with any certainty whether these proclivities are inborn concomitants of the child's sex or whether they are socially induced.

6.3.8 Intelligence and linguistic development

There is a positive relationship between linguistic ability and intelligence: the one aids the other. Generally speaking, the bright child will speak before the normal or subnormal child does, but there are many exceptions. Intelligence is particularly important with regard to the more complex levels of linguistic development: the child with a good intellectual endowment is capable of critical observation, of seeing connections between things, of understanding meanings and appreciating differences in meaning, and these capacities enable him to develop linguistic habits more rapidly and more effectively than the less gifted child will be able to do. Conversely, intellectual development is influenced by linguistic development.

With the aid of language the child is able to understand a far wider range of things and events, both past and present, than would be possible if he were wholly dependent upon direct experience. Language

makes it possible for him to experience, through reading, many things that would otherwise be beyond his reach. In this way, language influences intellectual development. On the other hand, a brilliant child has a heightened ability to distinguish between events, objects, meanings, etc., and his linguistic development will be further stimulated and encouraged when he learns to express these distinctions by means of symbols.

6.3.9 Bilingualism

Bilingualism poses an interesting environmental problem.

There are indications that early contact with more than one language can lead to confusion and may even retard the linguistic development of the child concerned. But some investigators have found that in certain isolated cases children have been taught two languages simultaneously without any detrimental effect.

6.3.10 Imitation

The mere fact that a child learns the language of his environment proves the importance of imitation. Children imitate all aspects of other people's behaviour. This is particularly noticeable with regard to motor and verbal activities. The fact that the deaf child does not learn to speak because he does not enjoy the advantage of being able to imitate the speech of other people is further evidence of the importance of this factor. DeCroly distinguishes the following types of imitation:

- (a) imitation with or without understanding (comprehension)
- (b) intentional and unintentional imitation (sometimes described as voluntary and spontaneous imitation)
- (c) immediate and indirect/delayed imitation
- (d) accurate and inaccurate imitation

Tests have shown that an accurate or precise imitation of sounds is very rare: it is much more usual for sounds to be reproduced with little regard for the accuracy with which they echo the original. Most present-day psychologists agree with Taine's opinion that new sounds are not learned through imitating the speech of other people, but originate in the child's spontaneous *conversational play* as he matures, and that the child will only imitate sounds that have already cropped up in the course of his spontaneous babblings. DeCroly believes that auditory differentiation must precede speech and is an essential element of imitation. He

maintains that the development of comprehension and of auditory perception are inseparable. He says that words do not have a purely musical value for children, and that children *only distinguish words to which they attach significance*. Imitation cannot, therefore, precede understanding, for a function must not only be within a child's capacities but must also satisfy an individual need or further an individual interest.

Leopold (1949) points out that imitation is not a passive process but requires the child's active co-operation, and that it is the child himself who decides what he wants to imitate. This observation emphasises the role of imitation with regard to the process of identification.

6.4 SPEECH DEFECTS (a cursory survey)

6.4.1 Introduction

In many cases speech development is hampered in one way or another. Speech disturbances have an extremely detrimental effect on the health, powers of communication, happiness and success of the individual. They should therefore receive close attention, particularly in the pre-school and primary-school periods.

Many modern parents lead such full lives that their children and any problems they may have are pushed into the background and the duty of noticing a child's faults and defects devolves upon the teacher-educator.

Although there are special therapists who are trained to treat defects and correct faults, they are so few and far between that there can be no question of every child receiving expert treatment. It is therefore the duty of the teacher-educator to offer what help he can.

An untrained person cannot possibly treat, correct or even improve speech defects; nevertheless there are certain things that the teacher can and should do.

Every individual in his class has been entrusted to his care, and the child with defects should obviously receive due attention. (Here we are thinking of cases that crop up in the normal school.) In order to give this attention, the teacher must among other things:

- (a) at least be able to *recognise* speech defects;
- (b) use methods and aids which will enable him to teach the defective child as successfully as possible, despite the defects;
- (c) ensure that the child is not treated with contempt and that his defect

- does not become any worse: the child must feel secure;
- (d) seek counsel and advice concerning any child in his class who has a speech defect, and make purposeful efforts to apply this advice in relatively simple cases;
 - (e) do nothing which may aggravate the child's situation or complicate his problem still further, unless such action is unavoidable;
 - (f) improve his knowledge of psychology, if he feels himself to be insufficiently informed, for some speech defects have psychological causes.

There are various ways in which the teacher can improve everyday errors in speech: we shall mention these in a later section.

6.4.2 Articulatory defects

These defects include incorrect uses of sounds. Usually consonants as well as vowels are mispronounced, as a result of incorrect movement of the tongue, the lips, and the soft palate.

The following terms are used to describe various types of defective articulation:

- (a) *lisp*: this is literally substitution, usually of *th* for *s*, e.g. "thluith" = "sluice";
- (b) *lallation*: sluggish tongue-muscles and an inactive tongue-tip cause the *r* sound to be mispronounced as *l*;
- (c) *baby-talk* (infantile perseverance);
- (d) Lazy and sloppy pronunciation, in which inaccuracies occur because the speaker is indifferent.

The most common causes of articulatory defects are: poor instruction by the parents, perception disabilities, low intelligence, infantilism (the child persists in lisping because adults think the habit "cute"), emotional conflicts, abnormalities of the organs of speech, and brain damage.

Therapy usually takes the form of practice in auditory discrimination with regard to the child's mistakes: the sounds he substitutes, leaves out, or distorts. The correct sounds are then reinforced in isolation so that the new sounds become habitual before being transferred into meaningful speech. Causative factors, if present, are tackled at the same time.

6.4.3 The child whose speech is retarded

Retarded speech is closely related to articulatory defects, but is treated

as a separate phenomenon because people afflicted in this way not only have difficulty in pronouncing words correctly but suffer from noticeable linguistic disabilities as well. In some cases the person cannot speak at all. Here we must distinguish between congenital aphasia (loss of the power of speech) and speech which has been retarded in the process of birth, or by abnormal or subnormal motor development, or by neurological deviations.

The following general causes should be considered in relation to the history of the individual child: low intelligence, deafness, poor co-ordination caused by illness or paralysis, prolonged illness (particularly during the first two years of life), weak motivation towards speech, ineffective teaching methods applied by the parents, confusion with regard to handedness or a change of habit with regard to handedness, a shock experienced while in the act of speaking, emotional conflicts, aphasia.

6.4.4 Voice defects

These are present when a person is unable, for structural or functional reasons, to produce normal, comfortably audible sounds.

Deviations such as the falsetto voice, *thick speech*, nasalised sounds (other than those which are normally nasal: m, n, ng), hoarseness and husky speech, jerky speech, a monotonous pitch, splitpalate speech, etc., are usually classified as voice defects.

6.4.5 Nasal speech

The ordinary class teacher can sometimes help cases of nasal speech. If the defect is caused by a lazy uvula (*little tongue*) it can be improved through certain exercises.

The correct nasalisation of the m, n, and ng sounds is sometimes hindered by a blocked nose. The condition can be alleviated by improving the child's hygienic habits.

6.4.6 An undetached tongue

A completely undetached tongue will be detected by the child's mother or by the doctor soon after birth, for babies afflicted in this way cannot suck and therefore cannot be fed. The defect can easily be corrected by medical intervention: the tongue membrane is cut loose.

A partially undetached tongue may possibly not be detected until the child begins to speak. Sounds such as r, t, d, s, will be affected, for the child will not be able to reach his hard palate with the tip of his tongue. He will be able to produce the r, t, and d sound fairly successfully by using a slightly different technique, but the r sound will be rolled (producing a “bry”). This condition can also be helped by medical intervention provided that the delay has not been so prolonged as to cause paralysis of the whole tongue.

Sometimes children with perfectly normal tongues roll their r’s (“bry”) simply because their parents do so, i.e. the defect arises from imitation. In such cases the condition can be improved if the children concerned are taught to be aware of the tongue vibration involved.

6.4.7 The stammerer

Approximately 1% of school-going children stammer or stutter, and the defect usually originates very early in the developmental years. Stammering occurs about twice as frequently among boys as among girls.

Stammering may be defined as the inability to enunciate certain sounds. The afflicted person is temporarily unable to utter a word. As soon as the muscular tension abates there will be a spate of words, followed by another blockage when the person “sticks” at some other word or sound. Stammering and stuttering often occur together.

The great majority of stammerers begin to show signs of the defect either at $\pm 2\frac{1}{2}$ years or at ± 6 years, when the child goes to school. These two ages represent important “breaks” in the child’s life: the first, his emergence from the period of babyhood and the second the breakaway from the intricate and protective family circle to a wider social milieu. During both these periods he has difficult adjustments to make and may suffer from emotional tension caused by a conscious or partially unconscious fear of meeting the group. Stammering is not really a speech defect, for the stammerer is able to speak fluently in some circumstances. Some children suffer from the defect only in the presence of strangers, others display it only when they are with their parents, others again when they are before an audience, etc.

The following are important causes:

6.4.7.1 Emotional state

The child who for one reason or another is nervous when required to

speak will find normal speech difficult. The nervousness may arise from a shock, fear, a feeling of constraint, a belief that his audience is critical of him, etc.

If the child is in a general state of tension there will be excessive strain on the organs of speech, and this is likely to induce stammering. Stammering may be an expression of anxiety or a feeling of inadequacy.

6.4.7.2 Unnecessary anxiety

Unnecessary anxiety on the part of the parents may help to induce stammering. Because they are afraid that their children will develop this defect, they interpret the interpolation of words like *and*, *er*, and *then*, etc. – words which are used by children and adults alike to fill the gap whilst the speaker considers precisely what he wants to say – as a sign of stammering. By making the child repeat words or scolding him for introducing interpolations, they make him overaware of the habit and thus create the ideal conditions for the development of real stammering. A child will soon begin to stammer if he is punished for speaking at all hesitantly or if his requests are not satisfied until he has repeated them without stammering.

6.4.7.3 Imitation

Jokes and stories about stammering may seriously harm normal speech development. One day the child will realise that he himself has stammered a little (as we all sometimes do) and this may engender the fear that he may become a habitual stammerer and be laughed at by others. If a parent or some other person with whom the child is in contact is a stammerer, the child may unconsciously imitate the defect.

6.4.7.4 Incorrect breathing

Children who stammer often breathe jerkily or release almost all the air from their lungs before beginning to speak. Their speech may consequently be interrupted for lack of breath. Any anxiety about stammering will make matters worse.

6.4.7.5 Left-handedness

Some investigators believe that the constraint and anxiety experienced

by left-handed children who are forced to write with their right hands can create a state of emotional tension resulting in stammering.

6.4.8 Hearing defects

Some investigators report that as many as 10% of school-going children suffer from hearing defects of one kind or another, some serious and some relatively slight. Sufferers may be divided into 4 groups:

- (a) Those who are totally deaf. These children are also dumb in consequence of their deafness, and they must obviously attend special schools at which the teaching is adjusted to their needs and capacities.
- (b) Children with very faint residual hearing. Because the degree of loss is so great, these children are placed in special schools for the deaf or in special classes for the hard-of-hearing in normal schools. Their speech is extremely poor, and they usually have to be taught to speak.
- (c) Children with a fairly serious degree of hearing loss. When possible they are placed in the special classes for the hard-of-hearing, mentioned above, but as there are few such classes in the Transvaal, most of them have to attend ordinary classes. Their speech is usually nasal, monotonous, indistinct and displays a great many articulatory errors.
- (d) Children with a slight degree of hearing loss. Fortunately the majority of cases fall into this category. All such children are placed in normal classes and their speech is usually normal. In some cases the speech tends to be nasal, or the child speaks too loudly or too softly, etc. People with split palates are often slightly deaf.

The following may be signs of auditory disabilities and should be noted by the teacher with this possibility in mind:

- (i) inattentiveness: the child may have lost interest because of his inability to hear;
- (ii) slow or sluggish thought: the child does not answer questions briskly, possibly because he cannot hear them clearly and therefore has difficulty in interpreting them;
- (iii) poor progress in academic subjects;
- (iv) speech defects, particularly faulty pronunciation and idiosyncratic speech habits, may have arisen because the child cannot hear words and sounds distinctly;

(v) a look of bewilderment or perplexity may indicate that the child is confused, cannot follow what is going on, and is looking for guidance though he may be too shy to ask the teacher to repeat a sentence or an idea;

(vi) sensitivity and touchiness on the question of hearing: he does not wish others to know about his condition or to offer sympathy.

Deafness may be detected in the classroom by means of the clock test, or with the aid of an audiometer.

6.4.9 Conclusion

As we have seen, the sympathetic teacher can do a great deal in various direct and indirect ways, to help and guide the child with speech and/or learning defects and to correct errors in speech. Linguistic defects affect educational communication and thus hamper education and teaching.

From our discussion of the facts relating to linguistic development, it is clear that as the child grows up language becomes increasingly charged with meaningful thought. In our cultural milieu language is an indispensable tool for the construction of a meaningful life space. That is why it is so important that we should study linguistic development, for it reflects the manner and tempo of the child's development as a human being. Even very small children are wholly and intensely involved in the acquisition of language. Viewed chronologically, language is initially a medium for the expression of affective experiences. The child as a total being is involved in such expression even before it becomes a matter of choice. With the advent of volition the child begins to assign meanings consciously through the medium of language.

The child's intellectual development is closely related to his control of language.

6.5 ORIENTATION

This chapter has described the development of language as such. No child can develop without an adequate command of language. Language is the means by which he actualises himself, communicates with people who are important to him, is assured of their acceptance, and makes his own self-evaluation. Language as an *ontic* structure shows that it is by verbal expression that a child actualises his relationships and orientation and constitutes his life-world. It is so much a part of him that his command of language not only serves as an index of his development

– a deficiency in this area is one of the plainest evidences of developmental problems.

A child who speaks clearly and communicates well at the age of two is commonly considered 'bright', a child with a future, when a child cannot speak at four, there is great anxiety about his psychological and particularly his mental wellbeing.

In the kind of study we have been undertaking, the student must remember that our object is not language but the child's selfactualisation by means of language. He uses language to assign meaning; language is the medium of support and teaching, the best way to become involved and to express his subjective experiences. The empirical educationist is never interested in the child's linguistic ability as such but in the part it plays in his development towards adulthood. We may make a detailed study of language, but our focus is the maturing child.

The development of thought

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CHAPTER 7

The development of thought

7.1 INTRODUCTION

A considerable portion of a person's life is occupied by relationships which are not physically present at the time. This type of involvement presupposes the presence within the consciousness of ideas representing objective relationships with people, experiences and situations in respect of whom and in respect of which the person occupies certain positions. These ideas that are present in the consciousness, and the psychic manipulation of such ideas, constitute what is commonly known as thought. In this chapter we shall consider the nature of thought and the way in which thought develops in children.

However we cannot proceed without further ado to a more detailed definition of thought, for every educator sees the phenomenon in terms of the particular theory he himself upholds. He constructs a model which accords with his own particular approach, and bases his research on this model. Research data are thus directly related to the particular model of thought which the investigator has constructed.

When one studies the problem of thought one cannot but be struck by the extreme diversity of these thought-constructs. Because of this diversity, widely differing methods of empirical research are used, and the resultant findings show corresponding differences. It is important that we should understand and interpret experimental findings in terms of the particular thought-constructs on which they are based. Very few data of this nature lend themselves to broad generalising or to wide-range application.

Without embarking on a thorough study, we shall now mention various psychological approaches to the problem of thought, each of which describes and investigates the phenomenon in its own distinctive way. The Association Psychologists describe thought in terms of stimuli, reactions, the transmission of nervous impulses, and conditioning. To

these elements propounded by the associationists, the Psychology of Thought adds the factor of thought task, which it regards as a determining tendency. Development takes place via the conscious strata, though this school of thought also believes that some of the contents of consciousness are imperceptible. The gestaltists describe thought in terms of inner experience or a state of emotional tension which forces the person to seek solutions to his problems. To this end, the data must be restructured in such a way that, when insight dawns, the ancillary relationships form a gestalt or pattern which is itself the solution to the problem. J.C. Coetzee distinguishes between perceptual, associative, conceptual and imaginative thought.

Later we shall discuss Piaget's concept of schemas and operations and Bruner's generalisation principle in more detail.

A pedagogical perspective on thought would be very much to the point. In the absence of thought there could be no question of educational communication. If he is to be educated, the child must be capable of internalising the instruction he receives as well as educational actions. And the ability to do this is one of the attributes of childhood. Experience has shown that children can indeed absorb ideas, can follow educational guidance and can eventually learn to think in abstract terms and in a critical manner. *From the pedagogic point of view*, thought is seen as the *attribution of significance* by the child to situations in which he is *totally involved*. The child does not think with his intellect alone. It is necessary that we should view the problem from this perspective, because our proper concern is the significance of thought, and of the study of thought, with regard to the child's progress toward adulthood. If he adopts the above as his perspective, the educationist will be able to view theories and research results selectively and with insight and understanding, to the betterment of his knowledge of the child as an educand.

In this chapter we shall suggest an approach to the study of thought. It is not the only way of doing justice to the perspective we have been discussing: several others are possible. It will not be possible for us to include all the information relating to this perspective on thought. Much that is relevant will have to be excluded, so we shall confine ourselves to considering the media of thought – i.e. the *material* of thought – and the modes of thought – i.e. *how* people think or what happens when one thinks.

7.2 MEDIA OF THOUGHT

When we consider thought as an activity in which people are involved, we must necessarily ask ourselves with what and to what ends do people

think. The medium in which one thinks will be determined by the end or purpose to which one is thinking, and this purpose may be immediate or remote. Nevertheless it is essential that we should distinguish between media and purposes.

7.2.1 Images (image formation, imagination)

Images are conscious representations of things or events which are not present at the moment and can thus activate no physical sensations. Through imagination I can break away from my own train of thought and allow my mind to wander, for example, to the beach, re-living past experiences and anticipating future ones. The situation I have imagined may be so real to me that it is only by a vigorous effort of will that I can force my attention back to my work.

Someone explains how I can get to a certain place. In order to follow his directions I picture the plan or pattern of the area in my mind. There is a direct relationship with reality, because I begin with places I already know. By means of mental pictures I “see” the place or the plan and it is as if I were actually present there.

By imagining concrete objects and situations I reproduce past experiences. Creative work can also be done in this way: the artist transfers an imaginary scene on to his canvas.

7.2.2 Muscular activity (action)

Some of our commonest mental constructions are not pictures or reflections of concrete things. An important group belonging to this category consists of mental representations of actions. What is the shortest route to Pretoria station? Try to imagine how you do up your shoes, or how you would checkmate your opponent from a certain position, or how you would play a volley or a backhand stroke in a game of tennis. In all these cases the imagined act implies muscular movements. What presents itself to the imagination is not a visual picture but an action which is carried out in a particular way. By imagining the action I know *how* it is performed. In this way, for example, a sportsman may improve his performance by imagining the action involved in a tennis stroke, or a bowling or batting technique, a diving position, etc.

7.2.3 Language

Among other things, language is a medium of thought. By means of language we symbolise objects, concepts, generalisations and attitudes. The word or linguistic symbol then represents the situation or the generalised concept that we have in mind. The codes and methods of codification are learned principally in the educational situation, where the child is taught not only the meanings of linguistic symbols but also how they are codified and how to use, manipulate or organise them. Piaget, Vigotsky, and various other writers have tried to explain the connection between language and thought.

7.2.4 Concepts

A concept is not a concrete entity, and is not found in nature. It is a construct produced by the human brain, and represents an attempt at dealing with some particular situation. A concept therefore has meaning, though usually it exists only in thought and is handled by means of a linguistic symbol. Through abstraction and generalisation, particular experiences and the meanings of specific objects are translated into concepts with ever-broadening ranges of reference.

A well-informed person can form, use and manipulate mental images of concepts such as *mass*, *energy*, *speed*, *motive*, *intelligence*,

$$C = \frac{E}{R} \text{ or } H_2SO_4.$$

Thus the medium in which one thinks may be an image of a concrete object or situation which is *seen* as if it were a picture, or it may be an imaginary *performance* of an action, or it may be a linguistic symbol representing an object, attitude or concept.

7.3 MODES OF THOUGHT

No survey of thought would be complete without some attention to the *how* of thought. The question here is: what actually happens when a person thinks, or how are ideas manipulated? Research in this field has narrowed down to investigations of the products of thought rather than of the act of thinking. Until late in the nineteenth century studies relating to cognition and the processes of thought were regarded as belonging to the field of philosophy.

Round about the time of the First World War empirical research in

psychology centred upon the measurement of intelligence. In the U.S.A. the association psychologists carried out sporadic investigations into thought as the product of association, the connection between thought and perception, inductive and deductive thought, problem-solving, critical thought and creative thought. However, these investigations did not result in a global view of the phenomenon and threw little light on the development of thought.

Cognition occurs even in very young children, and manifests itself in the way in which they attribute significance to the phenomena they encounter within their life space. The mental activities or types of thought involved in cognition are: differentiation, recognition, integration, generalisation, induction and deduction. *Memorising* is the act of committing events or observations to memory, and *remembering* is the act of recalling the information that has been stored in this way. *Problem solving* is another mode of thought which requires a convergence of mental activities. It encompasses all the subsidiary activities by means of which information is organised into facts and relationships, thus forming structures which accord with the purpose or task or intended results of the person's thinking.

7.4 COGNITIVE DEVELOPMENT

7.4.1 Piaget's account of the development of thought

Piaget divides child development into phases. He distinguishes three main phases, each of which is sub-divided into several segments. With regard to cognitive development he mentions the following stages:

7.4.1.1 *The sensori-motor stage (0-2 years) and the pre-operational stage (2-7 years)*

The child embarks on a visual, auditory and tactile exploration of his immediate spatial environment. The first movements are reflex actions performed without any real awareness of the situation. These are replaced by assimilation and accommodation activities and at about one year the child begins to imitate actions. At about two years new modes of behaviour begin to appear: the child's language, actions and symbolic play indicate that he is aware in advance of the consequences of his actions. In this way some of his actions are internalised and acquire a mental existence. This is the preparation for thought. The child can re-

member an object and look for it if it has been covered up. During the *pre-conceptual stage (2-4 years)* language develops and begins to function symbolically. A pre-concept is an idea lying somewhere between the concept of an individual object and the concept of a general class of objects. At this stage the child cannot distinguish between *dog* (as the name of a kind of animal) and *dogs*, because he cannot distinguish between *all* and *some*, i.e. he cannot conceive of a general class or family of objects. And because he cannot generalise in this way he cannot think inductively or deductively. Piaget says that at this stage the child thinks *transductively*, i.e. from the particular to the particular. His thought consists of a series of mental symbols for actions. I recently came across the following excellent example of transductive thought. Driesie, a youngster who had just started school, was talking to his teacher, who was visiting his home. He knew her well because the families were neighbours. Whilst they were speaking of school matters he called her "Miss", but when he was telling her about his dog he called her "Auntie". The teacher was part of his school activities which had been internalised as such and had thus been differentiated from other activity-patterns.

7.4.1.2 *Concrete thinking operations (7-11 years)*

During the *intuitive stage (4-7 years)* the child thinks as he perceives. This implies that he understands a situation according to the way he looks at it, but the child is nevertheless able to grasp only one action or variable at a time.

An operation is an action which has been internalised so that the child can form a mental representation or image of it. It is reversible, in the sense that the child can go from the action to the image and back again to the prosecution of the action. This is the beginning of logical thought.

Operational thought develops and the child forms three types of concepts. The first is the concept of classification. He can sort a collection of differently-coloured blocks into groups, each of one colour. Secondly, he can arrange a number of blocks in order of size. The third concept is that of number. He can perceive the number seven, or seven objects, and understands the relationship between this number and the numbers six and eight. During this period the child can form concepts of quantity, weight, area, volume, length and numerical size.

Despite this conceptual development there are three variables that are not achieved until the end of this period. Concrete operations consist then, of mental representations of real actions or of realistic rep-

representations of actions: hence the perpetual search for reality at this stage.

7.4.1.3 The phase of formal thinking operations

The adolescent is now capable of forming hypotheses and envisaging possible consequences. He can connect ideas with one another within his own consciousness, in terms of general classes and mutual relationships, and can form hypotheses on the basis of such connections.

The young person can now think inductively and form generalisations. From these generalisations he can work back to particulars by deduction. The following capacities have now developed:

- (a) The ability to think or reason about the relationships between ideas.
- (b) The ability to consider all possible disjunctions and combinations of ideas.
- (c) The ability to handle both opposites and converses within the same system.
- (d) The ability to understand action and reaction.

Thus the adolescent can construct hypotheses and test them systematically.

Piaget believes that these stages follow one another in strict sequence and that there is only a very small margin of variation as far as ages are concerned. (Many investigators disagree with Piaget on this point.) Each phase has an initiatory period and a period of successful execution. As soon as actions are being successfully executed the following stage begins to make its appearance. Every structure that develops forms an inherent part of subsequent schemes. The chronological ages which Piaget assigns to the various stages seem to be problematical. Research in the field suggests a much higher correlation between intellectual age and performance than between chronological age and performance – with regard, for example, to a sustained concept of quantity.

7.4.2 J. Bruner's account of the development of thought

Jerome Bruner's model of cognitive functioning is closely related to the structuring of effective learning experience, for his main interest is the investigation of the factors underlying successful learning and successful teaching. His theories and his practical research are geared to possible application with a view to the improvement of educational practice.

7.4.2.1 Cognitive development

A child's intellectual development is determined by the culture into which he is born. And culture is strongly influenced by technological developments. The manner in which a person moves, perceives and thinks depends upon techniques and strategies which are acquired or inherited within a cultural context.

Basically, Bruner's model of cognitive development is a construct founded upon movement, image-formation and language. The elaboration of these basic elements depends upon integration. The child's intellectual capabilities increase by reason of his growing ability to integrate his notions of movement, the images he forms and his methods of representing these, and the concepts he has assimilated together with the verbal symbols for these, into increasingly complex functional units.

7.4.2.2 Modes of representation

The representation of experiences is not merely a matter of memory-work. Bruner postulates three modes of representation. *Enactive representation* takes place by virtue of the fact that experiences of actions are retained in the muscles. Any motor skill such as riding a bicycle, playing tennis, etc., is stored in the muscles in such a way that the representation of the action involved is not only a *knowing of* but also a *knowing how*. *Iconic representation* (image-formation) occurs through the selective organisation of concepts and images to accord with the structure of the immediate perceptual field. The image thus formed in the consciousness is highly significant to the person at the moment of its appearance. The third mode of representation is a system of *symbolising*. Primarily, linguistic and numerical symbols represent concepts whose significance is contained in and represented by the symbols associated with them.

Clearly, all three of these modes are closely related to the cultural context and the progress of the child's development.

In the course of his development the child moves from one to another of these modes of representation in very much the same way as he passes through the phases propounded by Piaget. It is important to note that these representations, as expounded by Bruner, are significant to the child. Little is known about the relationships between them or about the development from enactive through iconic to symbolic representation. Bruner and his colleagues have done a great deal of research in connection with the transition from iconic representation to the use of

language. From this it is apparent that during the primary-school period language becomes increasingly important as a medium of knowledge. The transposition of experiences into symbolic forms (linguistic and numerical) provides the child with a means of representing things which are remote in time and space, and of re-shaping, connecting and integrating them to form significant wholes.

7.4.2.3 The improvement of thought

Bruner is not much interested in inborn talent or ability. He is convinced that methods and techniques for the enhancement of ability can be developed. He says: "What is significant in the child is to what degree it depends not upon capacity but upon the unlocking of capacity by techniques that come from exposure to the specialised environment of culture" (Bruner, 1964, p. 7). If we remember Bruner's lack of interest in talent it is easy to understand what he means when he asserts that anything can be taught to any child in an intellectually honest manner.

Thought can develop only if previous knowledge is organised in such a way as to obtain clear generics (generalisations) which can be comfortably manipulated. Amorphous masses of knowledge are uncontrollable. Knowledge must therefore be organised and codified. The child organises and manipulates knowledge in a manner that accords with his own cognitive structure. The child can elaborate, connect and re-organise only those attributes of knowledge which are already present in his mind and which he already understands.

Cognitive style is an important aspect of Bruner's emphasis on technique or strategy. The specific task of didactic instruction is to help the child to develop effective strategies. For this reason he regards discovery as the ideal strategy and favours heuristic teaching which is designed to help the child to work out his own strategy.

Thus Bruner distinguishes three stages in the development of the child's powers of thought: enactive, iconic and symbolic representation (compare these with Piaget's three phases). All these forms of representation have meaning for the child, but in the course of his development linguistic symbols become increasingly predominant as the medium of thought. The child must be able to organise his experiences if he is to generalise and codify them by means of linguistic symbols. This being so, thought can develop effectively only in the educational situation, in which the child is led by an adult.

7.4.3 J.P. Guilford's view on the development of thought

Guilford (Baller & Charles, 1968, p. 286) set himself the task of identifying the primary intellectual capacities, with a view to building up a theoretical model of the structure of the intellect. By means of factor analyses of a large number of intelligence test items he distinguished 120 primary intellectual capacities. He then distinguished among these by arranging his model in cubic form in terms of:

- (a) content, i.e. type of information (4)
- (b) intellectual process, i.e. the manner of manipulating content (5)
- (c) product, i.e. what results from the process. (6)

Guilford was not attempting to investigate the development of thought as such. Nevertheless, his interest in the intellect and in the measurement of intelligence did throw some light upon the development of thought and does have some bearing upon the factors we originally set out to consider: namely the media and the modes of thought. These factors correspond to a considerable extent with Guilford's factors of intellect.

According to Guilford the intellect has "figural, symbolic, semantic and behavioural content". These elements correspond very closely with the media of thought mentioned above: images, actions, language and concepts.

The activities of the intellect are cognition, memorising, divergent production, convergent production, and evaluation. These too, correspond with categories such as differentiation, integration, induction, deduction, generalisation (recognition), memorising, problem-solving and creative thought, which have been suggested by other authorities on the subject.

In addition, Guilford includes among the intellectual factors the products formed when individual parts of the content have been affected by the action of the intellect. He distinguishes among these products by means of the following general terminology: relations, as connections between units; organised systems; changes or redefinitions; and implications.

The type of thought known as *productive* is usually classified under a separate rubric. Its principal constituents are problemsolving and creative thought. It is possible that productive thought actually means problem-solving (convergent thought) and creativity (divergent thought), and many writers believe that this is so. By productive thought we mean thought which has a result or product which is new. In contrast to this we have reproductive thought, which consists in recalling and manipulating previous experiences within the consciousness. The Gestaltists justly accused the Associationists of confining their attention ex-

clusively to reproductive thought. The emergence of the Psychology of Thought represented a definite move in the direction of productive thought. Psychologists of this school put forward the notion that a person may be unaware of some of the contents of his consciousness, and argued that the forming of associations occurs under the direction of a determining tendency, namely the task of thought or the end to which the person is thinking.

Convergent thought is directed towards the solution of a problem, while divergent thought is creative in character. Reproductive thought, i.e. the remembering of experiences, occurs throughout the whole course of development from infancy to adulthood. So too, do problem-solving and creativity. The small child has very real problems which require solutions. The problems are unsophisticated and the solutions fairly naive. But as he gains experience and his mental capacities increase he is able to employ more complex thought processes to solve more complicated problems. It is important to remember that problem-solving occurs even in very small children. In the two sections that follow we give our attention briefly to problem-solving and creativity.

7.4.4 Problem-solving

Various writers have tried to describe the thought processes that take place from the time a person becomes aware of a problem until a solution has been reached. Rossman (1931, p. 44) studied the work of more than 700 productive inventors. His studies enabled him to identify the following seven stages:

- (a) Awareness of the problem.
- (b) Analysis of the problem.
- (c) Assimilation of all the available information.
- (d) Formulation of objective solutions.
- (e) Critical analysis of the solutions.
- (f) The birth of a new discovery – the real idea.
- (g) Experimental testing of the idea.

There are various other ways of describing this course of mental events. In 1933 John Dewey put forward his well-known description of the following five steps:

- (a) Recognition of the problem.
- (b) Analysis of the problem.
- (c) Proposing possible solutions.
- (d) Testing the consequences of these possible solutions.
- (e) Evaluation of the chosen solution.

It seems that the first step is the most important: the person must be

aware of the problem as something challenging him personally and demanding a solution.

Guilford's theory of problem-solving covers the following elements:

(a) **GATHERING INFORMATION**

After the person has become aware of the problem and has decided on a plan for solving it, information assumes primary importance. The information must either be obtained from the environment or sought in the depths of memory. It may take the form of direct learning results which have been memorised, or of learning results which must be transferred to and applied in the new situation. Since the information, whatever its source, is usually required to function in a new situation, Guilford speaks of a transfer theory in this connection.

(b) **MANIPULATING THE INFORMATION**

According to Guilford the development of ideas in thinking which leads to the solution of a problem depends upon the following factors:

(i) *Fluency of thought*

A fluent thinker can evaluate logical possibilities and alternatives competently and without strain, as if he were simply recollecting them. Productive thinking requires both a good memory and fluency of thought.

(ii) *Supple thinking*

Suppleness is the opposite of rigidity, and is necessary for the production of transformations.

(iii) *Insight*

When one is handling information and manipulating relationships, the dawning of insight initiates pattern-formation.

(iv) *Evaluation*

Evaluation occurs constantly during the process of organising information: one judges as one goes along whether information is true or false, relevant or irrelevant.

Naturally, the modes of thought distinguished by Guilford's factor analyses improve as the child develops and as his thinking media increase their range and functionality.

7.4.5 Creativity

It is generally agreed that opportunities for creative thought are essential for self-realisation, no matter what the person's field of interest may be.

Originality is the essence of creativity. But the whole school system is geared to conformity rather than originality, with the result that the traditional school subjects offer the talented pupil little scope for original expression or for thinking out possible solutions to problems – quite the contrary. And creativity, like other human attributes, forms a continuum and we therefore should not expect to find it only in especially gifted people. Divergent thought requires opportunities for practice however.

Investigators in this field include E.P. Torrance, D.T. MacKinnon, J.W. Getzels, P.W. Jackson, and Wallach and Kogan.

7.5 CONCLUSION

It is clear from our cursory survey of thought as a human phenomenon that we know very few facts upon which we can build indisputable opinions. The following propositions seem to be generally accepted among people who have made thought their special field of study:

- (a) Significance attribution or the expansion of functional significance takes place through thought.
- (b) As an act of consciousness, thought functions constantly, both implicitly and explicitly, in educational and teaching events. Without thought there could be no self-development and thus no progress towards adulthood.
- (c) The media of thought are internalised actions and modes of behaviour, images, language and concepts.
- (d) The modes of thought or thinking operations are (1) cognition, which includes differentiation, integration and classification; (2) memorising, i.e. the act of storing the contents of consciousness in the memory; (3) remembering, or the act of recollecting items stored in the memory; (4) problem-solving and its constituent acts, which include recognition of the problem, organisation of information, insight and evaluation; and (5) creativity.

These modes of thought develop from simple to more complex forms. Anything that a person does by way of codifying events and organising relationships has been made possible by what other people have done for him. They supply the words the person uses to name things in the

process of significance attribution. They supply ideas and concepts from the adult form-systems of groups and generalisations, and in accordance with the values of the community.

The secondary school child

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CHAPTER 8

The secondary school child

8.1 IDENTIFICATION OF THE SECONDARY SCHOOL CHILD

The secondary school spans standards six to ten. The standard six child is usually about thirteen, the standard ten child about seventeen. The vast majority of children fall between these limits, though an extra year or two may be added on, especially at the upper end of the scale.

A scholar enters secondary school as a child; he leaves it as a youth on the threshold of maturity. Physical growth has been phenomenal: the matriculant is sexually mature, but psychological development is the real key to the level of adulthood he shall have achieved. The total development of these years is usefully described by the term *adolescence*, which literally means 'growing or developing towards something'. *Adolescence* describes the maturing period as such. We therefore think of the adolescent as a youth who is gradually, in a biological and a cultural sense, growing into the adult world.

Complete agreement does not exist about the chronological division between the periods of childhood and adolescence: children differ too much and there are too many different approaches and criteria for division. With due regard to cultural influences we can usually say that adolescence takes up the years from 12 to 22: early adolescence from 12 to 15, middle adolescence from 15 to 18 and late adolescence from 18 to 22. The secondary school child is therefore in early and middle adolescence. The lower limit is dominated by physical puberty and the upper limit by cultural demands. Adolescents have always received the 'torch of civilisation' from the previous generation, to continue the values and norms as well as the content of their culture. In an advanced and therefore demanding culture, adolescence is extended so that the youth may be adequately prepared for all the facets of adult life. Earlier gener-

ations with their static culture, like primitive peoples, set up sexual maturity as virtually the sole criterion for adulthood. The extended adolescence of an advanced culture gives rise to generation gaps, student unrest and riots, mainly because of the ambivalence of life for the young. They are both child and adult. Of course, it is mainly the post-school youth or late adolescent who is subjected to this ambivalence. The following chapter is devoted to this subject. *For purposes of clarity, we shall be referring to the secondary school child as the adolescent and to the post-school youth (late adolescent) as the youth.*

Because there is such a phenomenon as a post-school youth, the secondary school child is more readily forced into the 'child' category. Although physically mature, he is often not accorded due recognition of his independence and dignity.

We could deal with developmental phases (cognitive, affective, etc.) but since these are always observed in terms of specific situations – in relation to people, ideas, objects, or himself – we shall be describing the adolescent in terms of these relations.

8.2 THE ADOLESCENT'S DEVELOPMENTAL AIMS

We have already distinguished the following aims:

Meaningfulness as the will to understand;

Adequate self as the will to be somebody;

Belonging as the will to belong to the people he esteems.

These aims are complex and comprehensive. The child does not verbalise or formulate them or deliberately plan ways and means of realising them. It is the observer who classifies his aspirations and actions into these categories. Self-actualisation is the comprehensive developmental task. His full potential can be realised only if he *understands* and orients himself, if he *experiences personal adequacy* (which is seen as a positive self-concept) and if he *belongs to* and is accepted by *the people he values*. Although these aims can be conceptually distinguished they cannot be realised independently (i.e. in isolation from one another). The empirical educationist verbalises the child's aspirations, but it is the child who *wants to know*, *wants to understand*, wants to orient himself. It is the child who *wants to accept himself* and *wants to belong to people*.

These aims are as valid as ever in the secondary school phase, but they require a fresh content. Orientation now takes place by using formally operational kinds of thought to assign meaning to what he is involved in – especially objects, ideas, other people and himself. His self-concept takes on a high degree of permanence, crystallised by his continuing achievement of adequacy. His relationships with parents and with

peers of both sexes show new characteristics, but the underlying aspiration is still to belong. These developmental aims are achieved only in so far as the child relates to himself, to people he esteems (parents, peer group) and to objects and ideas, including values, attitudes and so forth.

8.3 THE ADOLESCENT'S RELATIONS TO SELF

The child enters secondary school with a real sense of identity and a definite self-concept, either positive or negative. This self-concept comprises the totality of evaluation of all the components of his self-identity. Self-identity in turn refers to his conception of his body, of himself as a scholar including achievements and skills both within and outside the classroom – of himself as a child of his parents and a member of his peer group. Each identity component is evaluated, so that self-conceptions vary in quality. Some are high. The child who excels in athletics or mathematics considers that 'I am a good athlete' or 'I am good at maths'. Others are low. He may see himself as physically unattractive or inept at communication. 'I am ugly' or 'my friends don't like me'. Some self-conceptions are central and crucial while others are peripheral and less vital. The child's self-concept is the integrated totality of all these self-conceptions.

During early and middle adolescence, at secondary school, important bodily changes take place that profoundly affect his relations with objects and people. His 'new' body may be experienced as either admirable or humiliating. This includes physical, psychological and social changes, because his developing relations concern the physical, psychological and social self that form such important components of his self-concept.

The physical self (body-image) is more important during adolescence than in any other stage of a person's life except possibly old age. Basic physical changes focus attention on the body. His experience of his body is not a voluntary one. His corporeality now begins to demand attention, and it is centred on the body itself (Engelbrecht 1970, p. 176). New sensations, characteristics and physical interactions make their appearance. With these dramatic changes, the body itself becomes a symbol of experience. Depending on its condition and quality, the body gives rise to subjective experiences like the following: being good at gymnastics, self-esteem based on athletic achievements, security based on physical strength, acceptance and esteem based on a goodlooking face and body. Awareness of the body is present from birth and because of its permanence it is also the basis of sexual identity. When secondary sexual characteristics appear, the teenager adapts to these according to his interpretation of how others perceive his changed body. Despite

unisex clothing and hairstyles, he cannot be sexually neutral. Peers of both sexes evaluate him in terms of sexuality. So it happens that the individual acquires a new status, no longer derived from his skill with marbles but on his adequacy in the male (or female) role, which varies from time to time and from culture to culture. The girl experiments with cosmetics, perfumes, hairstyles and fashions which are not only suggested but enforced by advertisements. This is not merely a way of killing time: the girl is personally involved. The question is, can these experiments bring her closer to her physical ideal – perhaps even realise the self-portrait presented by fantasy? The response of others (particularly the peer group) is influenced by characteristics like height, strength, excess weight, skin problems, freckles, good looks, attractiveness. The adolescent's own experience of the way he looks is even more important than the response of others. The secondary school child's preoccupation with his body is entirely understandable: *the body is he, it is she*, regardless of circumstances. To the high-school athlete it is incomprehensible that bulging muscles should add little to the prestige of an adult man. The plain girl cannot believe that as she grows older, her lack of radiant charm will become less important.

This preoccupation with the body is essential: the adolescent's perceptions are limited by the tyrannical standards of his peer group (Rogers 1977). Deviations from accepted standards of dress and appearance are at best tolerated. The price of nonconformity is rejection. Consequently, both sexes go to great lengths to conform to the approved stereotype.

The adolescent's concern with his appearance seems exaggerated, especially to adults, but it is part and parcel of his intense experience of his own corporeality.

As the body-image is a vital component of the self-concept the adolescent's preoccupation with his body and its extensities that determine his appearance is quite comprehensible. The self-concept includes far more than his body-image but at the same time the influence of this body-image on the self-concept is more vital than one might expect. It is by way of the body that one relates to the world and to other people – once again, not the body as a biological or physical entity but as it is subjectively experienced. A girl with acne is painfully hesitant about forming social relationships in a new environment. This body-image – the body as experienced by its owner – is the medium through which relationships with people and objects (e.g. gym apparatus) are formed.

Relations with one's own body can be enhancing or humiliating, pleasant or unpleasant, evoking the verdict 'I like my body', 'I don't like my body' or something in between. For the adolescent, this becomes 'my body has to be protected from the critical eyes of others' or 'my body is

unquestioningly accepted by others, so I can forget about it and attend to the problem as perceived.

The self-concept is also important as an outcome of relations with objects, ideas or other people. The polarisation effect of relations (see Relations ch. 1) is always approach or estrangement, pleasant or unpleasant – in short, positive or negative. The adolescent accepted by peers and significant others will also accept himself (Coopersmith 1967). This aids a positive self-concept.

An adolescent whose achievement in most of his school subjects is high by his own standard, will have a positive academic self-concept that will assist his general self-concept. Success in public performance – before the class or some other audience – will also assist his self-concept in the same way as praise or encouragement from people he values.

Self-concept is inversely proportional to anxiety (Vrey 1974). The weaker the self-concept, the greater the anxiety. The greater a person's self-acceptance, the fewer the frightening situations he anticipates or encounters, since he has fewer doubts about his ability or acceptance. The poorer the self-concept, the less effective will be the strategy he uses to cope with anxiety or tension (cf. May 1950).

We must also consider the effect of a person's relations on his subjective experience of himself – a vital factor in an adolescent's self-actualisation. We are referring, of course, to guided actualisation. Educational support is largely a background affair, present by implication, while the educator's direct intervention and assent are a matter of specific decision and can arise at any time.

8.4 RELATIONS WITH PEERS

8.4.1 Introduction

Relations with peers become more and more important as the child grows older. By the time he is adolescent, they are vital for self-actualisation. He goes to school with his peers, plays sport with them, goes to the cinema with them, relaxes with them in the school grounds and elsewhere. His friends are both company and a sounding-board for his voice and opinions. Some of these opinions cannot be aired in front of adults – his views on teachers, parents, discipline, personal problems at school, military service, relations with the opposite sex etc. Such opinions must be clearly formulated before they can be aired. This encourages the adolescent to think clearly and express himself clearly in order to be understood.

Various facets of an adolescent's relations with his peers are important for self-actualisation.

8.4.2 Friendship between adolescents

Close friendship is the most important relationship an adolescent can form with a peer. Such a friendship averts the torments of loneliness that can be experienced even in a group. Physical presence does not ensure real encounter or psychological closeness. A boy and girl can dance together for a long time while remaining absorbed in their own thoughts. Unless there is an emotional bond of intimacy, concern and friendliness requiring knowledge of the other person, the adolescent's loneliness is not relieved.

The most meaningful friendships arise where the parties meet as equals, feel at home with one another and feel free to share the most intimate secrets, the most private thoughts and emotions. There is no need to pretend or to fear that confidences will be betrayed. Parties to such a friendship can openly criticise one another without condemning.

Such friendships are more common where important characteristics like intelligence and socio-economic status are shared.

Close friendships are unforced. There is no room for formality or social amenities. Silence imposes no strain. Long, vivacious conversations can be followed by silence without any discomfort. In more formal relationships, such silences are embarrassing and intolerable.

8.4.3 Social acceptance

In every peer group there are adolescents who are generally popular and others who are generally rejected. Various intermediate gradations also occur. Sociometric studies have taught us a great deal, e.g. the finding of Jersild (1963, p 258) that popular adolescents are cheerful, friendly, active and natural, that they participate readily in all sorts of activity and are quite willing to take the initiative.

Poorly-accepted adolescents are often moody, sad, anxious and insecure. Cause and effect are closely interwoven. A child rejected by his peers on account of his moodiness will become even more moody. As they grow older, other norms for acceptance develop; but physical achievements in sport (i.e. athletics) however, together with friendliness and sociability are always held in esteem by the community and remain therefore prevalent in the hierarchy of norms for acceptance by others.

8.4.4 Conformity

Adolescents in all cultural groups show great similarity in dress, speech, habits, idiom etc. We describe this as conformity, and its universality means that an adolescent has to conform in order to be known as a member of the group. The implication is that conformity is either implicitly or explicitly enforced. To be absorbed into the group, the individual must conform. Since the adolescent is anxious to be accepted, he conforms willingly.

In his eagerness to conform, he may take part in activities he himself does not approve, such as drinking or smoking. He will conform even if it entails a contravention of social or parental norms.

Competition is a universal cultural phenomenon and common amongst adolescents. Depending on the cultural group, outstanding members may deliberately fail to conform. If achievement in some sphere is valued by the peer group, the high achiever will enjoy added esteem. The compulsive competer is usually a person with a poor self-concept. He feels constrained to prove his own value (to himself also) by excelling. Such competition is self-destructive, because such a person cannot really relax with his peers and enjoy it. Competition is wholesome when it is spontaneous and when it is enjoyed: good-natured competition enhances popularity and does not damage conformity.

Conformity is a factor in the adolescent's growth to adulthood, but in his identity formation his unique qualities must take shape too. Only then does he become a person in his own right and not just one unit among many. In the educational situation, the adolescent must be allowed to conform to his peer group – periodical withdrawal by the educator is an essential component of education. But they must meet again and the adolescent must be supported in the formation of his own identity, shown that 'you are you', a person with his own dignity, unique and unrepeatable. Conformity tends to cancel identity. It is, however, essential to the adolescent to become fully aware of his own identity.

8.4.5 Heterosexual relations

A well-established sexual identity is needed before heterosexual relations can be formed. We can distinguish three overlapping phases in a child's psychosexual development. Sexual identity is the first. Starting with pink or blue baby-clothes, the child learns that he is a boy or she is a girl. The next phase is the acquisition of masculine or feminine skills – typical behaviour that becomes automatic, such as neatness and daintiness in girls, or playing with dolls, while boys enjoy rougher games. The

third phase is sexlinked values, knowledge and attitudes, the latter being culturally determined to a considerable degree. Each of these developmental phases remains a distinct component of sexual identity, which acquires a new dimension during adolescence.

It is this experience of sexual identity, with its corresponding behaviour and attitudes, that underlies the attraction between boy and girl. The boy-girl relationship is extremely important to the child's self-actualisation and self-reliance, and it is characterised as follows:

- (a) '*Chance*' meetings occur, dates are made for sporting events, the cinema, etc.
- (b) Older children make more *formal arrangements*, and the boy begins to court the girl.
- (c) Random *caresses* begin to occur or the couple start 'going steady'.
- (d) It is noticeable that it is *the erotic factor* rather than sexual affinity that sustains the relationship. The erotic element is seen in mutual attraction – the urge to be together, mutual admiration, gazing at each other, affirmations of love – without any clear-cut sexual intention (cf. Langeveld 1961, p. 253).

A boy and girl in love intensely experience a wide range of emotions: from the heights of ecstasy and joy to the depths of pain and depression, from overwhelming tenderness to rage; from exhilaration to fear. These variable emotional states often cause absence of mind and sadness, or cheerfulness and gaiety.

- (e) The adolescent's *preoccupation with his body* brings uncertainty to the relationship because there are new physical phenomena to be assimilated, such as menstruation or ejaculation, as well as new drives and desires. It is essential that an adolescent be given the authentic facts concerning his or her body in an atmosphere of trust and pedagogical acceptance and responsibility.
- (f) These heterosexual relationships are also characterised by *a desire for authentic knowledge concerning the partner's body* and the effect of the relationship on the other.
- (g) The boy-girl relationship is also noted for *uncertainty, doubt and anxiety*. Whether the sex act has been experienced or not, both have urgent and anxious questions in their minds concerning masturbation, menstruation, pregnancy, abortion, contraception, homosexuality and related matters. The adolescent wants authentic information presented frankly and without moralising. Inadequate or faulty information can cause considerable uncertainty and doubt, leading to anxiety – often quite unnecessary – which can so occupy the youngster's mind that he cannot concentrate on his daily commitments.

In the way of educational support he needs, first and foremost, factual

knowledge imparted without prudery or coyness. It should *always* be imparted *during a pedagogical encounter in a pedagogical atmosphere*. An adolescent needs to stand on his own feet. This effect is particularly noticeable in heterosexual relationships, where he is obliged by his own choice to take a stand on his own values and even to say NO to what would otherwise be quite in order. May (1970) points out that contraception, which has attracted so much attention of late (e.g. press reports on the Pill) is a typical manifestation of the post-Victorian permissive society, which prefers to find pragmatic solutions for the moral problem of taking a stand on one's values and saying NO. Since even adults find this so difficult, mechanical aids are resorted to. The educational implications are plain. It is not yet clear who – parent or teacher – is the most competent person to give the secondary school child authentic, pedagogically relevant instruction on this score (and it is probably not an either/or question: both have a part to play) but it is vital that such instruction should be given. (Note the questions sent by adolescents to the advice columns of newspapers.)

Personal conversations with adolescents show that such instruction must rest on two bases: a relationship of *unconditional acceptance* between educator (parent, teacher, instructor or minister) and adolescent; and secondly, *authentic instruction* without moralising. It is the educator who must provide the right climate of positive relationship, affective atmosphere and self-disclosure in which authentic information can be imparted and in which the adolescent feels free to discuss intimate problems without embarrassment to either party.

Heterosexual relationships between adolescents are a fact. Their nature and quality can promote either self-realisation or self-destruction, and therefore responsible pedagogical help and support are a matter of urgency.

8.5 RELATIONS WITH PARENTS

8.5.1 Introduction

The adolescent's relations with his parents are a continuation of their earlier relations. The parents have authority and – ideally – provide the secure basis from which the child initiates other relationships. The child still depends on his parents and is strongly influenced by them. His increasing involvement with the world outside his home entails new perspectives concerning his parents. From this perspective, parents are seen as people comparable to other adults. In a psychological sense, the

adolescent leaves the parent's home and takes up a new personal vantage point outside the family from which he sees both the world and the home in a new light. This sporadic departure (in the psychological sense) from the sheltering home is a trying out of the adolescent's wings, a finding of his own feet in a world where he must live as an adult alongside his parents. In this section we are going to concentrate on these trial runs, which constantly modify the nature and quality of the child's relations with his parents.

These assumptions of new vantage points can be seen as the adolescent's fight for emancipation. It is indeed an effort and a fight, because leaving home implies the possibility that the door may shut behind him and not easily open again. We see this in the anxiety and conflict experienced by many adolescents, particularly those whose relations with their parents were not wholesome to start with (children, for instance, who feel rejected). When the youth attains maturity, this means that these temporary experimental vantage points have solidified to a single permanent base from which he will constitute an adult life-world. The emotional bonds of love and attraction, or their opposites, will continue to influence him. Let us take a closer look at specific aspects of the adolescent's relations with his parents.

8.5.2 Importance of these relations

The importance of an adolescent's relationship with his parents is unmistakable when one hears a post-school youth's account of it. Its importance rests on the presence or absence of love as its dominant feature. Mutual love is not an isolated phenomenon but something that eases the relationship. It gives rise to many other positive emotions and clamps down many negative ones.

The effect of a stable love base is far reaching. The adolescent who is loved simply because he is his parent's child does not constantly have to plan to keep their goodwill. He can take this for granted even when he differs from them or tries their patience. The young who can rely on parental love feel freer to take risks, to explore, find themselves, try out their abilities, develop decision-making powers and openly compare alternatives – particularly as regards the choice of a career. They feel free to make the inevitable mistakes without fearing that these will mean total rejection by their parents. Nor do they have the destructive guilt feelings suffered by children who are not really loved by their parents. The adolescent who is sure of his parent's affection is free to differ from them. He can in fact fight for his rights, as he sees them, without fear of retribution or vengeance.

8.5.3 Awareness of the family's nature

Once the adolescent finds a vantage point outside the family, he can succeed in putting some distance between himself and it. He can look critically at the family that is so important to him. They are extensions of himself and are judged by subjective standards. Favourable features enhance his self-image; unfavourable ones lower it. He demands improvements in these latter aspects – his parent's clothes and general appearance, the condition of the furniture, Dad who laughs so loudly (especially at his own jokes), Mom who is not tidy enough, and so forth. This outspokenness causes friction, particularly when the adolescent is highlighting faults about which the family already feels sensitive or inferior.

8.5.4 Reduction of dependence on parents

Emancipation is a complex affair. It starts in early childhood. The young child's development toward independence is sometimes defined as emancipation, which literally means the achievement of equal rights. Clearly, emancipation in this context comprises the whole lengthy progress from birth to maturity, for the child becomes progressively more self-reliant as he learns to dress and feed himself, move around, acquire knowledge, and so forth. As this orientation increases he achieves adult knowledge and competence and therefore equality – he is no longer a child but a fellow-adult. During adolescence we stress that aspect of emancipation that is concerned with independent moral judgments and responsibility for decisions. These are impossible without effective orientation to the outside world and the establishment of a functional life-world.

There are two sides to adolescent emancipation – on the one hand, the adolescent's readiness to take his own decisions and accept responsibility for them; on the other, the parent's readiness to permit this. *Successful emancipation demands a synchronisation of the two processes.* They must co-incide in time. If the adolescent is ready to take decisions, the educator must make a concession for which the youth then accepts responsibility. The educator must avoid granting impulsively demanded responsibilities for which his charge is not ready, or responsibilities for which he has not even asked; nor must he refuse those for which the adolescent is ready. Successful emancipation, then, is an educational matter in which the maturing youth is supported towards self-actualisation.

Reduced dependence goes hand in hand with greater self-reliance in

thinking, deciding and acting. The following parental attitudes retard emancipation:

- (a) Reluctance or refusal to give the child his rightful independence. This type of parent takes a wide range of decisions the child is capable of taking for himself, e.g. as regards the clothes the adolescent wears.
- (b) A denial of freedom. Conditions are attached to the permission to do things, and the parent checks up on the child's compliance with conditions – in other words, the child is not trusted.
- (c) The adolescent is treated like a much younger child by constantly reprimanding or pampering him.

The adolescent experiences these attitudes as statements that 'you are too young' when his ambition is to be adult. The parent can responsibly refuse freedom only when he is prepared to explain his full reasons in a pedagogical encounter.

On the adolescent's part, the following attitudes harm emancipation:

- (a) Insistence on a freedom he cannot yet responsibly exercise and which may therefore result in mere license.
- (b) Failure to accept freedom and independence. Such timidity results from ineffective education, unsuitable parental attitudes (e.g. 'I'm not good enough for you any more') or defective dialogue between parent and child.
- (c) Avoidance of contact, so that there is no fellowship that can produce encounter.
- (d) Adolescent prejudice that rejects everything the parent says and so destroys communication.

When emancipation miscarries, rebelliousness, quarrels and reproaches result. Even in adulthood the former adolescent may still taunt, defy and misjudge the parents. No child needs to be defiant unless he is rebelling against parental domination – even if unconsciously, and at this age quite unnecessarily.

The essence of emancipation is the adolescent's freedom, wish and ability to take responsibility for his thoughts, moral judgments and practical decisions (Jersild 1963). When emancipation is a success, parent and child remain close. "Honour your father and your mother" creates no problems. Parental advice is freely asked, neither enforced by the parent nor slavishly followed by the child. Even the parent's moral judgment is respected, but the adolescent eventually acts on his own convictions.

It is natural and wholesome that the adolescent should, during this time, increasingly dissociate himself from his parental home, both physically and psychologically. If readiness for emancipation on both sides is well synchronised, the child will always return. Good synchronisation

helps to give the adolescent a realistic idea of his parents. As a child he obviously had an unrealistic view, because the parents were tall and strong when he was small and helpless. Even in moral matters the parents were virtually omnipotent – sole arbiters of right and wrong. Only if synchronisation is good will emancipation give the adolescent a realistic idea of his parents. *And once the adolescent has formed a realistic conception of his parents, he has progressed far and effectively towards emancipation.* .

Mark Twain has given us a striking description of an adolescent: “When I was a boy of fourteen my father was so stupid I could scarcely stand to have the old man around, but by the time I was twenty I was astonished at how much he had learned in the last seven years” (Jersild 1963, p. 238). This realistic image of the parents makes a significant contribution to a positive self-image: while the child sees his parents as strong and omnipotent he necessarily sees himself as small and powerless. Clear educational support from parents, in enforcing reasonable standards of behaviour, help the adolescent’s emancipation by promoting a positive self-concept (Coopersmith 1967).

Effective adolescent/parent relations are the most potent factor in the adolescent’s growth to independence. In all his uncertainties and in all the tensions and anxieties arising from these, the unconditional acceptance and security derived from his parents are the sole stable and stabilising factor.

8.6 RELATIONS WITH IDEAS

8.6.1 Introduction

In constituting his life-world, the adolescent is increasingly concerned with ideas. Like objects, people or the attitudes of people towards himself, ideas become important only when he becomes aware of their significance for him and their implications for his own identity. The adolescent’s degree of personal awareness – of himself and of the world, from which his life-world develops – depends on his cognitive development.

The adolescent’s cognitive powers function on an intellectual plane unknown to children. Piaget (Inhelder and Piaget 1958) has shown that these changes are a function of three factors: (1) the maturity of the nervous system, (2) experiences with objects in his life-world and (3) experiences with people he esteems.

According to Piaget, the adolescent is now in what is usually called the period of formal operations. His logical powers enable him to reason

from a verbalised hypothesis. He can speculate on the nature, consequences, value and social and personal importance of such an hypothesis. His interest extends beyond personal experience and involvement. Elkind (1968) says that abstract thought enables the adolescent to conceptualise concepts of *identity* and *destiny*. Directing this thought to himself, he becomes aware of new dimensions in his own identity and in his ability to conceive of logical consequences. He can also think about his destiny and so form a conception of his ideal self. His cognitive powers enable him to move on an abstract mental level where ideas can be assimilated and thoughts and situations understood; and so we next need to study the adolescent's intellectual powers and his mode of intellectual involvement in situations and ideas.

8.6.2 Structure of formal thought

It is inherently difficult to grasp the structure of formal thought because one is not aware of the act or process of thinking in oneself but only of the product. Structure can only be deduced from manifestation. We had therefore best attend to some cognitive manifestations of formal operational thought and some of the affective consequences of these (cf. Elkind in Adams 1968).

8.6.2.1 *Differentiation between thought and the external world*

Between childhood and adolescence, a progressive differentiation between thought and reality takes place. Each phase of development produces its own problems. The *primary school years* are the period of *concrete operational thought*. These concrete operations lead to elementary deductions and therefore to *concrete hypotheses* concerning reality. The child is not aware of the hypothetical element and accepts his deductions as perceptions of objective reality. He does not see that his conceptions must be judged in terms of reality; he seems to feel that reality must be judged in terms of his deductions (hypotheses). To him, his deductions are facts.

During the *secondary school years* the adolescent sees that his hypotheses or deductions are *arbitrary and have to be assessed in the light of reality*.

This mode of thinking has been demonstrated in various laboratory tests (Adams 1968, p. 145). A problem (concept formation at a visual level) is presented. To solve it, the adolescent formulates an hypothesis

and compares the possible solution it engenders with the practical situation. If the possible solution is not the correct one, the *hypothesis is discarded and a new one formulated*. The child, on the other hand, clings to his hypothesis and is reluctant to part with it even if reality proves it wrong. The primary school child tends to be rigid in his thinking and to cling to his solutions. The *adolescent considers the evidence, thinks dynamically, is aware of the arbitrariness of his method and tries out alternative possibilities*. It is this awareness of possibilities that pinpoints the real differentiation between thought and reality.

8.6.2.2 *The use of abstract concepts*

An adolescent thinks more abstractly than a primary school child. By abstractly we mean that his thought is more general and less fused with immediate experience. This phenomenon is universal and can be copiously illustrated, as in a research report by Elkind (1963). Children of various ages were asked, 'Are all the children in the world protestants?' Primary school children typically answered, 'No, I know of children who are not protestants.' Clearly this reply is linked to the concrete situation and does not apply to children generally. Adolescents, on the other hand, replied: 'No, because there are different religions in the world'. This reply is general and takes into account all children everywhere; it is not linked to actual cases. The adolescent's reply provides for all the positive and negative possibilities inherent in the problem; the child is aware only of certain cases known to him.

8.6.2.3 *The interpretation of literary and graphic material*

To comprehend a piece of prose or a description, the child considers the indications contained in it. The adolescent considers the situation as a whole, including relevant concepts not contained in it. Adams (1968, p. 151) found that children cannot interpret political cartoons. Adolescents can, because they can move from the literal to the metaphorical meaning. To a child, a donkey is a donkey. The adolescent can see the connection between a donkey and a given political figure, and he takes in the double meaning. The ability to see possible meanings in a concrete figure, however remote from the literal meaning, once again results from that combination of meanings in the cognitive structure (not subsumption or inclusive relations) which is a potential ability of formal operational thinking.

8.6.2.4 *The adolescent in his world*

We have seen that, when formal operational thinking starts, the adolescent begins to grasp his identity and destiny and that this leads to a self-image and an ideal self-image which are *compared*. He also grasps the actual situation as compared with the ideal situation in his home, school and country and in the world. This discrepancy between what is and what should be leads to depression and discontent (often called *Weltschmerz*). Because of this discontent about reality, the adolescent tends to be a rebel, but his rebelliousness is usually confined to words. During adolescence, the otherwise happy adopted child starts looking for his real parents and the handicapped child is subject to fits of internal depression. Formal thinking makes it possible to evaluate a situation in which he is involved, and shortcomings in the actual state of affairs depress him.

This power of critical evaluation is directed at himself also and gives rise to the well-known adolescent egocentricity. He sees himself at the centre of the stage and imagines that everyone is evaluating him critically. He then tries to make himself more acceptable by means of clothes, cosmetics, hair styles, etc. If he succeeds in being accepted, this contributes to a positive self-image and the concomitant tendencies to action. The stabilisation of the self-image does much for effective self-actualisation.

The structure of adolescent thinking centres on factors like formal operational thinking, abstraction, comprehension of double meanings and the experience of depression because of the discrepancy between the actual and the ideal.

Basically, the adolescent is wrestling with concepts to which he is trying to give meaning. Because of his personal involvement, his emotional experience tends towards depression. If we allow for limited experience, the adolescent handles concepts as an adult does. The adolescent needs support in uncovering relevant meanings but he also desperately needs security and acceptance from parents and other adults important to him.

8.7 RELATIONS WITH MORAL AND RELIGIOUS VALUES

8.7.1 Introduction

One of the aims of education is to bring the child to a point where he supports the norms of his society from personal conviction. His culture

contains moral, religious, social and other norms deriving from the corresponding values esteemed by the community. The totality of these values is subsumed in the way of life maintained by that community. This way of life embodies the vital values from which no one can dissociate himself, because one is always confronted with values – and their implied norms – to which one must give concrete form by taking up one's own stance towards all that makes up one's world. Every human being is constantly subjected to obligations in that he is required to steer his life in a certain direction by virtue of the choices he makes (cf. Liebenberg in Landman, Roos and Liebenberg 1977). A freely willed action belongs to the moral sphere (Coetzee 1952, p. 136).

At white South African schools, where a Christian National system of education is enforced by law, the child encounters Christian values such as charity, chastity, justice and integrity at an early age. According to the Christian perspective, man's relationship to God comes first and his relationship to his neighbour second. The adolescent's relations with religious and moral values develop to a point where he will conform to such religious and *moral norms as 'you shall not steal'* of his own free will. The question is how successful his identification with the norm has been. Empirical research has brought to light a number of these essences.

8.7.2 Moral development

Moral development contains a clear cognitive component. The adolescent becomes increasingly capable of conceptualising and generalising moral norms. Understanding moral concepts, he is able to transcend the morality based on rules and achieve a morality based on principles. A principle embraces a whole spectrum of concrete situations. *The value of 'honesty' gives rise to the norm 'you shall not steal'*. The principle refers to more than theft as such – also to dishonesty during examinations, carelessness about the possessions of others entrusted to one's care, lying for one's own advantage, and so forth.

Piaget (1932) describes a gradual transition from heteronomous to autonomous moral judgment. The former means a morality based on rules (norms) prescribed by others, while the latter is based on a person's own convictions and judgments. The young child does not steal because his parents forbid it. The adolescent with autonomous moral judgment sees that his parents obey the norm and he agrees with the principle underlying it – that one should not steal. Adolescence also brings a shift from moral realism to moral relativism (Jersild 1963). To the child (the moral realist) it is a more serious transgression to break a

dozen eggs by accident than to break one on purpose. The adolescent is more of a moral relativist and takes into account the conditions, relations and relativities: the transgressor's intentions as well as the practical circumstances and the consequences of the transgression. To him it is a more serious matter to deliberately spill one drop of ink on his friend's drawing than to upset a whole bottle over it by accident.

Empirical research into adolescent levels of moral judgment has established 'that the average young person of adolescent age is likely to subscribe to ideas of right and wrong that come close to the ideas held by adults' (Jersild 1963, p. 388).

Moral judgment is always manifested in a given situation comprising a number of contributory factors such as the adolescent's self-concept, the status of other parties, his relations with these parties, awareness of the situation's components, etc. The complexity of actual situations means that an adolescent who agrees with a given moral norm may yet, in a situation containing too many of the above factors, show a considerable discrepancy between his stated moral principles and his actual behaviour.

It is probably due to educational influence that – according to researchers such as Peck and Havighurst (1960) and Taba (1953) – the level of moral judgment reached at the age of ten remains largely constant throughout adolescence. The norm practised by the parents will be the norm followed by the child – whether positive or negative.

8.7.3 Religious development (Protestant Christianity)

The adolescent's religious background and his education in regard to the origin, nature and destiny of humanity is of the most vital importance. A personal religion means a faith and hope to which an adolescent can cling during the uncertainties and vicissitudes of his development. We need to ask whether anything about the religious level is peculiar to adolescence.

A given religion is a feature of given culture or like-minded group, and so differences in the practice of religion are to be expected. Most religious denominations have prescribed ways of admitting the adolescent to full church membership. In most South African English and Afrikaans churches it is done by way of confirmation. Various surveys in the USA (cf. Jersild 1963, p. 374) have shown that some 90 per cent of adolescents profess a belief in God. Gallup polls show that the positive orientation towards God and religion in adolescents corresponds with that of adults. An important inference is that adolescents are aware of a need for God. It is incumbent on the educator to support the adoles-

cent's religious development so that he may learn to rely on God. *Two essential requirements would be authentic knowledge and the practical demonstration of religious norms.*

During the years of childhood, the parent's religion is accepted without question; with adolescence, doubts arise. Questions show that adolescents have doubts about the existence of God, Biblical statements, the certainty of salvation, etc. Doubt is often a groping towards a personal faith. Most conversions occur during adolescence. A long period of falling down and getting up again lies ahead. The adolescent cannot do without authentic religious knowledge, especially without knowing the way towards our redemption. It is a fortunate child who grows up in a Christian home and who finds certainty about his own salvation during adolescence, because his religion will support him through the uncertainties that lie ahead. Of course, there is often a discrepancy between confession and practice. Adolescents are immensely frustrated when they observe these discrepancies in adults, so much so that it may cause them to break with religion – not because they have lost interest but because they cannot reconcile themselves to the discrepancy. It causes great disappointment, because they long for unity with God and with others in the fellowship of the church, where they find security and also the answers to many personal problems.

Because of his critical attitude the adolescent demands, of himself and of others, an *integration* of professed religion with everyday life. The adult – parent, teacher or minister – whose relations with other people are obviously unsatisfactory will not have much success in instructing adolescents on religious and moral matters. Yet the adolescent is intensely aware of *acceptance*. Kindness, respect and esteem from his religious instructor mean more to him than that instructor's religious status. It is the same at school: the secondary school child attaches more importance to the teacher's kindness, respect and esteem for himself as a scholar than to the academic knowledge he attributes to the teacher. It is a well-known fact that scholars work harder at and derive more pleasure from subjects taught by teachers whom they like.

Because of the adolescent's concern with abstract ideas, he is able to understand religion at a deeper level. The focus shifts from concrete situations (like Daniel in the lion's den or the miracles of Christ) to the knowledge, feeling and faith in which he – dependent, finite, temporal creature – is united with the eternal, all-sufficient, transcendent God who, in Jesus Christ, is lovingly concerned for man.

Ross (1950, p. 158) found in a study of 2 000 adolescents that 'the findings indicated that for a large number of young people religion is "a vague body of inherited or acquired ideas" which they have not, to any substantial degree, experienced or understood.' The adolescent who

can see an integration of profession with practice in his own home – experience the importance of religion for life and also a personal conversion – is fortunate indeed.

Many adolescents have difficulty in reconciling religion with science, especially natural science. The supposed discrepancy is, of course, a myth. This is why the adolescent must have educational support to understand that the mature scientist, like the mature believer, is humble. As science approaches the frontiers of knowledge, it becomes increasingly aware of the mystery of the unknown. 'When the scientist thus begins to speculate about meanings he is involved in a search not unlike that of a religious person who raises questions about ultimate meaning' (Jersild 1963, p. 384). Educational support that provides this knowledge, safeguards the adolescent against unnecessary doubts and efforts to reconcile the facts in artificial ways.

Morbid guilt is harmful in many ways, not least in hampering self-actualisation by distorting the self-image. The Christian faith makes it possible for the adolescent to confess his guilt and to appropriate forgiveness by faith. This is one of many ways in which a living faith promotes self-actualisation.

8.8 ADOLESCENT DEVELOPMENTAL TASKS

8.8.1 Introduction

Practically speaking, adolescence comprises two phases; or, differently put, it is so prolonged by our technocratic culture that it includes post-school youth as well as the secondary school period. The secondary school child's developmental tasks are only a partial indication of the border-line between the two phases. Certain components of the process will continue, while others show a clean break. We can best look at these developmental tasks in the light of the adolescent's emancipation, with which we have already dealt in this chapter.

8.8.2 Relations with ideas in the school environment

- (a) The secondary school child has to pass his final or matric-examination.
- (b) He has had a good deal of success in learning to think abstractly and to solve problems involving symbols (linguistic, mathematical or chemical) and ideas.

- (c) He has achieved considerable self-reliance in work involving problem-solving in most of his subjects.
- (d) At the end of his matric year, he takes responsibility for completing his studies. This takes him a long way towards accepting responsibility for his own life.

8.8.3 Relations with his parents

- (a) Emancipated, he sees his parents more realistically. They, too, obey accepted cultural norms and are not as 'omnipotent' as he used to think them.
- (b) Though he misses his childhood home, he is self-reliant enough to leave it temporarily or even permanently.
- (c) He can form his own opinions on fundamental matters such as religion even opinions that conflict with those of his parents.

8.8.4 Relations with self

- (a) A personal identity has crystallised.
- (b) A consistent, more realistic self-concept has taken shape.
- (c) The adolescent is aware of his own identity or self in relations involving a conscious knowledge of his own capacity and the ability to act more or less intelligently, more maturely than he used to.
- (d) A male or female sexual role has been consolidated.
- (e) He has learned to control his emotions and to avoid many of the situations that used to cause tension.

8.8.5 Relations with peers

- (a) Following the peer group's demand for conformity, self-identity develops in such a way that the person's uniqueness – his difference from the peer group – is accepted.
- (b) During differentiation from the peer group, closer relationships – more mature because less egocentric – are often formed.
- (c) Heterosexual relationships are formed. These are strongly erotic, but infatuation often passes into love.

8.8.6 Relations with values

- (a) Formal operational thought enables the adolescent to form his own

- opinions about religious and moral issues *inter alia*. These decisions are taken freely and without compulsion from parents or teachers.
- (b) Following a period of doubt, the adolescent has formed his own religious convictions – particularly the adolescent raised in a religious home.

8.8.7 Relations with the career world

- (a) At the end of his school years, the adolescent chooses a career. In cases where years of practical or university training have to elapse, this decision may change.
- (b) A career is chosen as a matter of self-actualisation. The career is seen as the area within which self-actualisation can take place.

8.9 THE ADOLESCENT IN HIS LIFE-WORLD

In Empirical Education, the attribution of meaning is vital. It cannot take place without involvement. The quality of both meaning and involvement is determined by what the adolescent subjectively experiences, and both are components of self-actualisation – which, because of the need for educational help, is guided actualisation.

A meaningful life-world is formed when the adolescent, by assigning meaning, forms relations with objects, people, ideas, values, the self and God. A significant relationship means more than 'I understand'; there is always a polarisation effect which can be expressed as 'I am attracted to my parents even though I have left them', 'I am attracted to peers of both sexes', 'I accept myself, experience self-esteem and a positive self-concept', etc. There are also negative relations characterised by estrangement, rejection, and so forth. The adolescent's life-world is always expanding, partly because of the broadness of his interests and his acquaintance with ideas. His relationships, as dealt with in this chapter, are an expression of the life-world of the secondary school child as adolescent.

The post-school youth

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CHAPTER 9

The post-school youth

9.1 IDENTIFICATION OF A YOUTH

Up to the twentieth century the period now known as adolescence was rarely distinguished as a separate phase in the human life-cycle. The only phases recognised were babyhood and the childhood period up to puberty. This was followed by the full responsibility of adulthood. Often there was some form of preparation for a profession, but this was undertaken as an adult.

Stanley Hall's book *Adolescence: Its psychology and its relations to physiology, anthropology, sociology, sex, crime, religion and education* appeared in 1904. He described the 'new' phase and clearly, as the title shows, he saw it as having an impact in each of these fields. Once Hall had defined adolescence, there was no further doubt about the existence of such a phase, though the debate about its inception and duration was to last for a long time.

After the Second World War the school population exploded all over the world. The post-war child, growing up in a technological or technotronic era of affluence, mass consumption, television and the atom bomb, had a different outlook on life. Because of affluence – and the greater professional demands made by technological development – the years of education were extended. A youth leaving school is not ready for a profession, and escalating demands in all professions and trades mean an ever longer period of professional or tertiary training. So many post-school youths find themselves in this transitional period between secondary school and a profession that it has to be seen as a distinct developmental phase.

Most youths between the ages of 18 and about 24 are at colleges and universities or in the army. It is this group that will show us the distinguishing marks we are looking for. Their impact on society is unmistakable.

ble. Student unrest at the Sorbonne and many other universities in the Western world has initiated a new social problem. A Gallup poll in the USA in June 1970 listed 'campus unrest' as the nation's problem number one.

This real social shift casts doubt on all established customs, methodologies and technology. Mass communication and ultrasonic speeds bring expanding masses of people ever closer together, intensifying all social, technological and professional problems. The new generation not only reflects its epoch but also reacts to it.

In many ways the youth is an independent adult. He has the vote and a driver's licence and he is subject to army service where he defends his country. On the other hand he is economically dependent, and at the level of tertiary education some provision is made for student facilities and guidance. This extended period of dependence *has forced the post-school youth into the area of pedagogical concern*. Pedagogics, and in particular empirical education, must define the characteristics of this group as incipient adults. A new balance is struck between educational help and independent self-realisation. Active overall assistance declines and becomes more specialised, and the emphasis shifts to self-actualisation and personal responsibility. Help to this group cannot be defined as andragogic support: they are still dependant in too many ways and cannot be saddled with full responsibility. The empirical educationist considers that they fall within his field of study.

We agree with the definition Keniston (Guardo 1975, p. 305) gives of young people in this transitional stage: 'My answer is to propose that we are witnessing today the emergence on a mass scale of a previously unrecognized stage of life, a stage that intervenes between adolescence and adulthood. I propose to call this stage of life the stage of *youth*, assigning to this venerable but vague term a new and specific meaning.' We accordingly define *youth* as the stage of development between adolescence, as typified by the senior secondary school student, and adulthood. This imparts a highly specific content to the term *youth*. The post-school youth or late adolescent is distinguished and defined as a *youth* in contrast to the secondary school pupil. Large concentrations of youths are found at tertiary institutions and in the army.

Empirical education endeavours to determine how a child develops to adulthood, even when the child has become a youth. We are still concerned primarily with self-actualisation; with the educator and education we are concerned by implication only. The youth's self-actualisation proceeds by way of various relations. There is a natural continuation of the adolescent's relations, which we shall note only in so far as they exhibit new characteristics. We must remember that relations are formed by a constant assignment of meaning. The youth's life-world expands and deep-

ens, demanding intensive involvement, showing clear portents of the greater functionality found in the life-world of an adult.

9.2 SOCIAL RELATIONS¹⁾

When a youth forms relations with society, his self-identity is very much to the fore. This is natural, since he (his identity) forms one pole of the relationship. The adolescent struggles to identify himself – to answer the question *Who am I?* The youth, on the other hand, has consciously accepted his self-identity. This enables him to see the possibility of conflict inherent in his emergent self and the existing social order. He is thus not so much concerned with: *Who am I?* anymore, but with: *What am I?*

Successful self-actualisation always calls for integration between individuation and socialisation (May 1970). For the youth there is an irksome ambivalence between maintaining personal integrity and achieving effectiveness in society. He would like to assert his self-identity fairly autonomously by insisting on his own opinions, taste, style of dress, etc., which militate against conformity. At the same time he wants greater social involvement. The inability to reconcile the two is often a youth's central problem.

A juvenile delinquent once said, 'You can't live if there's nothing to push against' (Bettelheim in Winter and Nuss 1969, p. 19). He meant that a youth cannot evaluate his own worth, dignity, vigour and vitality if what he is matching himself against is a vacuum or a social order that yields too easily and is therefore less mature than the youth. He wants a social order and educational limits that are clear, positive and not subject to doubt. He sets a collision course against this social order because it is his securest testing-ground. His aim is a secure, internally stable self-identity. Neither rigidity nor the absence of a hierarchy of values is 'an attractive goal for the young man trying to emerge from his state of uncommittedness into one of inner stability' (Bettelheim in Winter and Nuss 1969, p. 20). This confusion, particularly at the beginning of the period of youth, gives rise to an identity crisis. Dedication to study in the senior years of study produces a new identity with occasions for self-realisation. Ambivalence derives from a conflict between social involvement and self-assertion.

To reconcile this tension, the existing order is carefully sounded. A deficient attitude is used to determine the vulnerability, strength and integrity of the social order. A youth often manifests criticism, rebellion,

1. Cf. K. Keniston, 1970. *Youth and dissent*, New York, Harcourt.

rage and disappointment, not so much on account of political activism as because he expects disappointment where he hopes to find honour, integrity, decency and insistence on values. He attempts to evaluate the weaknesses, strengths and vulnerability of his self-concept to see whether he (his self-image) can survive socialisation – what society will permit him and what it will demand. Intense self-concern, though on a different level from that of the adolescent, characterises the youth period also. Self-actualisation as individuation – the realisation of potential – gives the youth a feeling that nothing is beyond his reach – from the realisation of his own potential to the reform of the political and social order. This self-concept is one of power, of courage of convictions, and judgment is passed on the social order and on the moral and religious life of parents. Improvements are suggested. The youth feels strong and competent; he says with conviction: 'I know how far I can go in my sexual relationships or in the use of liquor'. A lack of experience often causes the strongminded youth to stumble, as the incidence of drunkenness and pregnancy shows. The counterpoise to the feeling of power is an experience of powerlessness, isolation, absurdity and frustration that can cause a youth to cut loose from society – hence depression and 'Weltschmerz'.

If he sees the social system as a threat to his self-identity, individuation may become so potent that socialisation and acculturation alike are refused. This leads him to try and break away from cultural norms, and identities peculiar to youth come into being, e.g. *hippies*. The youth may know this to be a transitional phase, but it none the less enables him to test his own strength by breaking away from existing society. He then feels more confident in moving in new, socially acceptable directions.

The dominant tendency in youth is to look for a better future with clear-cut values for which one can fight and with which one can identify.

9.3 RELATIONS WITH SELF

The youth finds himself in a community in which he must inevitably participate. Identity and role supplement one another. The role requires a specific person, who in turn must identify himself with the role. In the interaction between individual and community, identity will be the dominant consideration for the individual himself. His self-identity, and therefore his self-concept, may be enhanced by the role, e.g. the role of a star athlete or beauty queen in a student society. Such roles do not usually continue into maturity. If the self-concept is built on it, the ending of the role may badly damage self-identity. The youth's role in

his community will complement his self-concept. Keniston (Guardo 1975, p. 307) expresses the importance of a student's role-taking as follows: 'Some such youth-specific identities may provide the foundation for later commitments'. Although this role-taking in the limited community is temporary – since a student does not remain a student – it contributes to his self-actualisation, e.g. if he should be a member of the Student Council.

The self-concept becomes fairly stable during these years, and this autonomous self comes into conflict with the effort at social effectiveness. Much of the critical and self-critical attitude of youth must be seen as an effort to reconcile individuation with social integration which, if successful, leads to a more realistic self-concept.

At the start of this period, fear, anxiety, guilt feelings and the like are strongly present and are intensely experienced at the slightest provocation. This idiosyncratic heritage from adolescence must inevitably change, and greater self-reliance is the result. Other parts of the heritage from childhood and adolescence are preserved, but these are deepened and stabilised.

The youth's total self-concept may become either more positive or more negative as a result of new experiences – particularly the academic self-concept based on success or failure as a student, and the social self-concept which changes when identification with a given ideal figure ends or according to whether social relationships prosper or not.

9.4 RELATIONS WITH PARENTS

This relationship, too, contributes to the youth's further becoming. The adolescent has already discovered that his parents have feet of clay and is sharply aware of their faults. The youth begins to see them as equals and to understand that they live in a complex world. He stands alongside them and knows that they must conform to the same norms as himself; but this does not mean that he is not frequently uncertain and confused. Often he feels a great need to communicate with his parents.

Sometimes the parents now begin to feel threatened. Their child as a youth is now seen as a 'Gegenüber', a fellow-adult who is a threat to them. The parent has to justify a wide range of convictions on matters such as parental authority, prohibition and command, religion, fashion, eating and drinking. The youth's questioning (often heavily critical) arises mainly because he needs certainty and wants to test his provisional answers. Often a parent cannot provide a factual answer in matters concerning faith, trust and emotional experience; he may then become angry or take refuge in parental authority. Friction is inevita-

ble. The youth is entitled to his doubts – unless he has them, he will not achieve his own convictions or values. It is not primarily rebelliousness or a rejection of established custom that prompts the questioning: it is the need for certainty. The adult who is always expatiating about the good old days and the badness of present-day youth is merely trying in a feeble way to maintain his authority: he tries to base behavioural codes on figments of his own imagination. Much of the so-called generation gap is caused by this.

Parents should be *quick to concede* on the pedagogical level, but *intervention* must take place on a different level than before. The youth's maturity level must be respected, and dialogue and argument must be used to effect a change of mind if necessary.

9.5 HETEROSEXUAL RELATIONS

Relationships between boys and girls enter a new dimension in the post-school period. Greater or less success is experienced in obtaining a partner of the opposite sex, and the experiences of the preceding period – adolescence – are an important factor in this. The youth enters this period without sufficient knowledge because:

- (a) Adolescents get most of their information on sexual matters from their peer group. Such information is inadequate and inaccurate in quality as well as quantity, and it hopelessly confuses the adolescent's attitudes and expectations.
- (b) Sex education from parents and teachers is usually limited, unsatisfactory and too late. No detail is given about the function and meaning of sexual relationships. Most of the guidance given concerns the role of sex in procreation.
- (c) Sex education is usually confined to a lecture. Information is given, but open discussion is rare. The adolescent is rarely encouraged to discuss his own problems, particularly in regard to heterosexual relationships. Misunderstandings, fear and confusion are usually left untouched. Moralising often replaces meaningful dialogue which might provide real answers.
- (d) Educators often lack any clear idea of what they hope to achieve by their guidance. They have only the vaguest notion as to how the information they provide will keep the youngsters out of 'trouble' (usually illegitimate pregnancy).

Guidance on sexual relations and the implications of pregnancy is only one facet of the problem. The main purpose of sex education is to provide the knowledge and insight needed for correct decisions and responsible control in the area of the sexual impulse, the integration of the

sexual into a balanced life pattern rather than its denial or its identification as the central problem of social relations.

There are a number of reasons for sex education during youth and even after maturity.

- (a) Its importance is accentuated by a wide range of sexual problems such as frigidity, impotence, and the sexual maladjustments in marriage that are an important factor in many divorces. If young people could enter into marriage with real and relevant knowledge, the advice columns of magazines would not be so full of questions in this area. Marital experience does not imply knowledge.
- (b) The youth experiences his problems intensely. These problems range from heterosexual relationships at tertiary institutions to homosexual relations when young men are together in the army. In our time sex is heavily emphasised in literature, advertisements, clothing fashions, etc. The youth whose heterosexual relationships have progressed beyond the erotic and experimental stage to real attraction and love is uncertain about the role of the sexual element at this stage. Apart from the experience of love, he wants a rational assurance that sex is really important. Society's attitude to sex may not be a real symbol of maturity – it may be more like a neurotic compulsion to erotic stimulation, as Kirkendall and Calderwood (Winter and Nuss 1969, p. 106) describe it: 'Our so-called "openness" is not a healthy acceptance of sex and its place in social context, but merely a continual titillation of the mental erogenous zones.' Since there is considerable truth in this diagnosis of 'so-called adult society', this implies that the youth has to orient himself to a sick society. Clearly he needs guidance and support from mature adults if he is to construct a value system governed by religious and moral considerations.
- (c) Research and technology have revolutionised disease control, life expectancy and so forth. The entry of women into the labour market, birth control and the control of pregnancy have blurred the distinction between masculine and feminine roles. The youth encounters further problems like marriages across the colour line, premarital sex, abortion, etc. These are moral decisions, and that is why specific training is needed in order to take and implement them.

Heterosexual development in youth is a problematic and confusing affair, but it cannot be ignored. Continued guidance in the complex field of sexuality is no easy matter, particularly in this age of scientific and technological change, free choice and plural societies.

9.6 YOUTH PROBLEMS

The large numbers of youths that congregate at tertiary educational institutions make these the places *par excellence* where youth problems manifest themselves. It is not easy to distinguish problems unique to this phase of development. The problem as such will occur during adolescence and/or adulthood also, but the spectrum is specific. The following aspects may be mentioned in arbitrary order:

- (a) *Acceptance*. The youth's self-concept is becoming stable and also more realistic. Those who start this phase with a strongly positive self-concept are in the favourable position of being able to forget themselves and become absorbed in whatever academic or social task they have chosen. They assume that others will accept them as they accept themselves and can give their attention to their studies and to relationships with lecturers and with peers of both sexes.

The youth with a weaker self-concept cannot forget himself. He is threatened in his studies and in relations with lecturers and friends. Self-protection is paramount. There is little question of neutrality in social relations: the polarisation effect is as strong as ever. In social relations he experiences *rapprochement* or estrangement as acceptance or rejection. Some students experience acceptance by peers of both sexes, and this helps to compensate for practical problems. Such popularity may clash with academic commitments, but they are at least happy on the campus. When a student is noticed, addressed by name and engaged in conversation by his lecturers, this proves that they accept him. Such acceptance not only promotes successful study, it is a precondition. The student who is not accepted, experiences rejection. In many situations which objectively appear to be neutral, a student with a poor self-concept and a sense of rejection will imagine that he detects discrimination against him as regards the marking of papers, friendliness and so forth. This results in withdrawal, despondency, loneliness and anxiety. Many other problems are related to a student's self-concept and particularly his experience of acceptance. A study cited by Blaine and McArthur (1971, p. 58) mentions the following directly complementary problems:

- (b) The student who cannot study and complains of incapacity.
(c) The lonely student who claims that he cannot make friends.
(d) The student who just cannot bring himself to ask questions or take part in discussions.
(e) The student without a sense of vocation.

- (f) The student who habitually evades study and tries to prevent others from studying.
- (g) The student in conflict with his family, particularly his parents.
- (h) The student with physical or psychological (neurological) handicaps.

Any of these problems, if continuous and intense, will produce tension, restlessness and anxiety.

A typical problem, particularly for serious students, is what Erikson calls an identity crisis. The student comes into contact with views and philosophies that strongly appeal to his intellect, and this calls for a decision on whether to be a Committed Christian, atheist, evolutionist, communist, capitalist, or whatever. This cognitive sorting-out and commitment provides a vantage point, the achievement of a self-identity he himself can accept and esteem.

Some problems are superficial and ephemeral; others, closer to the core of the personality, have a deeper influence on the self-concept and the person's willingness to become involved in university life.

9.7 SUMMARY

One of the concerns of pedagogics is responsibility for supporting an educand to enable him to actualise his potential. As the years go by, the proportion of educational help to independent selfrealisation changes. A parent's help to a pre-school, primary school or secondary school child differs in scope and quality. Educational help to the post-school youth at the other end of the scale will take yet another form.

Only as the problems and longings of a maturing youth are understood, can his needs for support be assessed. We have been looking at the youth period as a developmental phase and have described some key features of a youth's relationships with others, his heterosexual relations, relations with parents and with himself. If the supporting adult is aware of these problems, the support is the more effective.

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CHAPTER 10

The teacher-educator

10.1 INTRODUCTION

Empirical education is concerned with the participants in the educational act. So far we have focused our attention on the educand in an attempt to answer the basic question our subject poses: **HOW DOES AN EDUCAND BECOME AN ADULT?**

We saw, firstly, that the child cannot become an adult by his own efforts. He needs the support of an adult who will take responsibility for his development to adulthood. The child wants to understand, to orient himself, to be adult. He takes the initiative in these matters, and the educator's function is to fulfil his specific needs. This relationship – when the educator offers help and the child responds to it – makes the child an educand and the adult an educator.

In this chapter we shall be concerned with the adult as educator, and we now reformulate the question as follows: **what characterises THE ADULT AS AN EDUCATOR?**

We shall need to concentrate on the educator's relationship with himself (his self-concept), with pupils as educands, with their parents, and with the subject matter. The teacher's educational support is specific and topical and requires specific attention.

It is primarily the educator's task to structure the educational process. The pedagogical relationship, which should be spontaneous, is his responsibility. He must take the initiative in pedagogical encounter: no matter how eager the child is to make contact with his teacher, this can happen only if the teacher comes to meet him. The teacher's willingness to achieve this contact, which is directed at education, improvement and progress towards the norm, is determined by the measure in which he accepts responsibility for the educand. His specific action, whether assent or reprimand, illustrates once again that total involvement is ne-

cessary. The person who educates non-stop does not educate at all (Van Praag 1950); and so we need to stress the importance of companionship.

10.2 THE TEACHER'S RELATIONS WITH HIMSELF

The teacher in his professional capacity is always an educator. But in himself he is always a person, and it is by being a person that he accomplishes his task as an educator. The teacher's self-concept lies at the core of his personality (Vrey 1974). This self-concept directs his tendencies to action, so that the teacher's relations with himself – his self-concept – will inevitably influence his performance as an educator.

The teacher must impart meaning to the subject matter, and his task must be meaningful to him – a meaningfulness that can be achieved only by intense and active involvement. He can never be a casual baby-sitter, nor a tape-recording played back for the pupil's benefit. Good teaching, let alone education, calls for personal interaction, and the intensity of the encounter is a deeply affective matter.

The teacher who encounters the child and is prepared to enter into a relationship with him, must be prepared to disclose himself (Jourard), to *expose* himself so that others – particularly the educands – may see him as he really is, thinks, feels and believes. No one likes to listen to or take advice from a nonentity. The teacher must be *somebody*, a person who accepts and esteems himself. Educands cannot respect a teacher unless he can accept and bypass himself so as to meet them with spontaneous authority. If the teacher has problems with regard to self-acceptance, self-assertion and self-esteem, communication is so disrupted that the encounter becomes forced and artificial and authority has to be physically enforced with a greater or lesser measure of success. Pupils are not impressed by a teacher's academic achievements or degrees: they take it for granted that he is qualified to teach them. They are concerned with the person, and one of the things they expect from him is that he should be able to impart his knowledge. Such a teacher becomes an important person to his pupils, and what he teaches them is also considered important.

All this flows from a positive self-concept. The teacher must see himself as adequate – as having actualised or realised himself. After comprehensive research into what constitutes a good teacher, Combs (1967, p. 70) describes the adequate personality as follows:

- (a) He sees himself positively – accepts himself as important, successful, esteemed, dignified, a person of integrity who is liked by others.
- (b) He regards himself realistically and without self-deception and

looks at his world equally frankly with a minimum of distortion and defensiveness.

- (c) He perceives and empathises with others in their circumstances and problems. This identification manifests itself as a feeling of oneness with people in different situations.
- (d) He is well-informed. A person with an adequate self has a rich and functional perceptual field.

This adequate self is essential in a good teacher. Independent studies by Gooding (1964) and Hildeman (1967), comparing successful and unsuccessful teachers, pinpointed the same qualities in good teachers.

We conclude that researchers lay great stress on a positive self-concept as a personal quality of the good teacher. The teacher must have a realistic self-image which he himself can accept and esteem and which does not need constant defence. It is not easy for a beginner to disclose, expose and forget himself while helping his pupils with their own self-actualisation. The basically adequate teacher can expose himself to criticism without feeling threatened. He can discipline himself, concede viewpoints and modes of behaviour without feeling that he is sacrificing a cardinal part of himself.

Teacher training must stress this component of personality growth so as to encourage the realistic self-perception that is fundamental to a positive self-concept.

10.3 THE TEACHER IN HIS SOCIAL RELATIONS

As an adult, the teacher must assert himself in relation to colleagues, parents and society. In his relations with society he must be seen as fully adult.

He should communicate with reasonable ease. This entails acknowledging the dignity, integrity and importance of others rather than seeing them as insignificant or as a personal or professional threat.

That is the ideal situation. In practice the teacher is not always accepted as a specialist. Parents with higher qualifications who take an active part in their children's education are often critical of teachers and school administration. Parents may feel threatened if their children prefer teachers to themselves as models. They may also feel that they are being held responsible for their children's shortcomings: *problem children have problem parents*. Teachers, again, may feel that parents are poaching on their professional preserves and are emotionally involved with the children's performance, entailing unjustified demands for higher achievement.

These unnatural expectations and attitudes between parents and

teachers cause anxiety in both. The result is a lack of spontaneity, a common situation today and one that inhibits free communication and cooperation in the child's interest. It is aggravated by the fact that the teacher derives his authority from the parent (Coetzee 1953, p. 358). Effective teacher/parent communication will always be essential if the child is not to suffer. The parent must feel free to discuss the child's problems with the teacher without fear of discrimination or unjust treatment. If the child's progress is unsatisfactory, the teacher in his turn must feel free to discuss the problem with the parent in a mature, responsible way.

10.4 THE TEACHER'S RELATIONS WITH CONCEPTS

Adequate knowledge in a teacher is a prerequisite for good teaching. Half a century ago a teacher could still acquire enough knowledge during initial training to last him his whole teaching life; but the contemporary technology and knowledge explosion has brought about such a mushrooming of information in all spheres that no teacher can ever consider his training complete. This does not necessarily mean formal study. Even a grade 1 teacher may find that television and other mass media have taught her pupils more about spacecraft or conditions on the moon than she knows herself. Every teacher's basic problem is to keep abreast.

No subject matter is automatically important: it has to be meaningful to the class. A teacher cannot simply collect facts or – worse – require pupils to reproduce a host of facts. His task is to find meaning in these facts, to structure and then to present them. The pupil's task is to grasp and assimilate the logical meanings potentially significant to him from his own functional cognitive structure. The teacher, then, must be able to separate and select essentials from a multiplicity of facts and to organise and expose the essentials in the relevant structures.

The attribution of meaning is essential if the child is to orient himself and to mature. Involvement is essential if this is to happen. Attribution of meaning and involvement as such are anthropological categories; the mature teacher must continue to attribute meaning if he is to actualise himself. The escalation of knowledge in the modern world forces him to understand and to assign meaning before he can select and structure. This entails intense involvement, in the subject concerned and in other relevant fields. So high is the premium placed on adequate, up-to-date knowledge that a teacher – especially a secondary school teacher – has little time for outside or extra-curricular activities. The effect of the successful Russian Sputnik mission on American educational planning is a

case in point. In South Africa, too, constant updating is necessary so that the proven core may be retained while keeping pace with the data explosion. This state of affairs places a permanent responsibility on the teacher and is reflected in extended and expanded teacher training courses. A higher initial training level is essential, but this is only a beginning. The academic demands on the practising teacher who wants to keep abreast of things are hardly less exacting than on the practising doctor. The doctor, in fact, has an advantage in that research laboratories will provide him with new drugs, which he can simply prescribe; while the teacher receiving new research data must himself understand and assimilate it and then adapt it to the Standard 8 or Standard 10 pupils to whom he is to teach it. This takes up a good deal of his so-called free time.

Hence the teacher must know the factual content of his subject, the general knowledge thrown up by a progressive culture, and the correct method of teaching (studied as Didactics). Most important he must know his pupils as educands.

10.5 THE TEACHER'S RELATIONS WITH HIS PUPILS AS EDUCANDS

The educand wants to mature. Whatever his innate abilities and motivation, which are obviously important, he cannot realise his potential if his need for adult support is not met. Every normal healthy child has this need for and willingness to enter into a relationship with a supportive adult.

The educator's first task is to take notice of and encounter the educand, whom by virtue of his vocation he has to help, support, accept and encourage and to whom subjects have to be taught so that the educand can achieve self-actualisation in society. Goethe declared that whoever takes a person for what he is, diminishes him. Similarly, while the educator must see and accept the educand as he is, warts and all, he must do so ONLY to support him in his growth towards adulthood so that his full potential may be realised.

The teacher must initiate the relationship, by steering pedagogical fellowship into pedagogical encounter, before assent or intervention become possible. We shall have to take a closer look at concepts such as encounter, some aspects of the child as a learner, the child's personality and the broader categories of educational help. When the teacher is seen as an educator, the child becomes an educand and what passes between them is pedagogical teaching. Educational assistance helps the

child to become involved and to understand, to realise his potential and to accept himself. His affective experience adds a deeper dimension to the relationship.

10.6 THE ENCOUNTER BETWEEN TEACHER AND PUPIL

Before teaching can take place, teacher and pupil must meet on a personal level. The encounter takes place in terms of the subject matter as a part of the cultural heritage to be imparted. It is a dynamic relationship and the polarisation effect is not constant. There may be a host of jarring factors – the teacher's health or personal problems, the pupil's laziness or indifference – but the total effect, the dominant polarisation effect must be one of rapprochement and intimacy. As Langeveld says, the child cannot be pedagogically helped if he is not encountered. If attraction is the hallmark of the relationship, then closeness, trust, belonging and accessibility (Landman, 1977) become possible. The pedagogical encounter can succeed because the child feels secure and is aware that the educator is willing to be with him and intends looking after him (Landman 1977, p. 27).

The question is, *how to bring about this positive relationship?* We shall touch on only a few of the important factors under the teacher's control.

10.7 THE TEACHER'S PERSONALITY

In the USA there has been much empirical research, involving thousands of scholars, on 'good' and 'bad' teachers (Hart 1934, Witty 1947, Bousefield 1940, Sears 1963, Cogan 1958, Reed 1962, Spaulding 1963). It seemed that the following personality traits in teachers made for the most effective encounter:

- Friendliness and considerateness towards each individual
- Patience
- Broad interests
- Attractive appearance
- Fairness and impartiality
- A sense of humour
- Good nature, consistency
- Interest in the pupil and his problems
- Flexibility
- Recognition and praise
- Teaching competence

The following broad categories of personality traits were also stressed:

- Warmth
- Patience
- Tolerance
- Interest in the pupil and his problems
- Flexibility

Hamachek (1968) summarises it as follows: 'I think the evidence is quite clear when it comes to sorting out good or effective from bad or ineffective teachers on the basis of personal characteristics. Effective teachers appear to be those who are, shall we say, 'human' in the fullest sense of the word. They have a sense of humor, are fair, empathetic, more democratic than autocratic and apparently are more able to relate easily and naturally to students on either a one-to-one or group basis. Their classrooms seem to reflect immature enterprise operations in the sense that they are more open, spontaneous and adaptable to change.' Because he is human, this teacher respects the child as a person and it would not occur to him to make unkind remarks on the child's appearance or any other characteristic close to the core of the child's personality about which he might be sensitive.

Since the teacher must encounter his pupils, he must be prepared to do so – and, for this, spontaneous fellowship is essential. The teacher with a poor self-concept requiring constant defence will not risk exposing himself. Poor self-acceptance makes it difficult for him to by-pass his self and meet the child's need, particularly if the child is lazy, aggressive or rebellious. The teacher must take the initiative. We have mentioned a few personality traits that promote the encounter. Clearly, their opposites would impair it: sarcasm, fault-finding, ill-temper, favouritism, touchiness, unfriendliness, aloofness (ignoring pupils outside the classroom), etc. While one teacher finds it easy to encounter his pupils spontaneously, another may find it a considerable effort to avoid pitfalls. It is the teacher as a person who encounters the educand, and for that reason the teacher's personality is a precondition for effective teaching.

10.8 THE TEACHER'S KNOWLEDGE OF HIS PUPILS

We shall consider later *how* a teacher knows his pupils. We want to establish, first of all, the *fact* that the teacher must know his pupils before authentic encounter becomes possible. We have classified the child's becoming to maturity into a pre-school, primary school, secondary school and post-school or youth period. It stands to reason that a grade

one child is not encountered in the same way as a matriculant. These categories are too broad to provide for all encounters with pupils. The problem of individual differences makes it virtually impossible for the teacher to know all his pupils. This is aggravated by children's relational, domestic, emotional, health and self-acceptance problems – and many more. Even if optimal personal knowledge of each pupil is out of reach, there must still be a willingness to know the children – even if it takes a concerted effort by the whole teaching staff. Practices such as home visits and coaching in sport, which add to their knowledge of the child, are valuable. Once the teacher knows the child, he will no longer regard all apathy, skimmed HOMEWORK OR POOR CONCENTRATION SIMPLY AS LAZINESS; Involvement of this order requires an encounter which in turn requires personal knowledge of the child. If this is lacking, encounter suffers.

10.9 THE TEACHER'S KNOWLEDGE OF THE MATERIAL

The teacher's specific task is didactical. Subject matter must be explained at the child's level, and he must be led right up to it so that he may assign his own meaning to it. To encounter the pupil via the subject matter, the teacher must be familiar with it. This seems self-evident, but there are teachers who err in this respect. That is why intensified efforts to raise essential teaching qualifications and to recognise supplementary qualifications are fully justified. A dynamic culture means an escalation of knowledge on all fronts, but also enhanced technical and technological aids to improve teaching methods. The once well-informed teacher must study, formally or informally, just to keep abreast of his subject and method. Specific help in this area will be dealt with later.

If the teacher has encountered his pupils as educands, he will not need autocratic methods to enforce order. A friendly teacher who respects his pupils, listens to their problems and knows his subject, will have few problems in the area of encounter and even fewer in actual teaching, whether by assent, intervention or explanatory teaching.

10.10 HELP FROM THE TEACHER TO THE LEARNER

10.10.1 Introduction

From our present perspective we see the learner in the process of learn-

ing; the learner who still needs to know and attain a vantage point from which he can eventually say with conviction, 'I know' or 'I can'. We shall be dealing with the actual process of learning. It consists of a number of stages – the will to learn, types of learning, initial success, establishment of success, recall and application or transfer. This is the common route from *can't* or *don't know* to *can* and *know*. Not every step is a formal one, nor are they equally strenuous; but that is the route – whether it entails manual skills, verbal concepts, attitudes or behaviour that is being learnt. Verbal learning is so important at school that we shall pay special attention to educational help in this area.

10.10.2 Expository teaching

There is considerable conflict in contemporary education between learning by discovery and learning by expository teaching. Some claim that a learner who learns after having the material explained to him is merely memorising rote: meaningful learning results from personal discovery only. We cannot list all the arguments for both points of view but you will have to be content with a factual statement of our own approach.

The relevant empirical-educational categories are attribution of meaning, involvement and experience. Amongst other motivations, the child learns because he wants to orient himself – an impossibility unless he gets involved with the subject matter. To orient himself, he must learn so as to understand. Learning is therefore a way of attributing meaning. To be able to repeat whole sections verbatim without understanding them is not to have 'learnt', because to learn is to assign meaning, and this is the sole objective of all verbal learning.

Most verbal learning consists of concept formation and/or assimilation. Such concepts are not concrete natural entities but 'inferences' or 'constructs' set up by human minds to facilitate understanding and use. Each concept implies a meaning. Meanings cannot be passively absorbed. As Woodruff (Clarizio et al 1970, p. 239) says: 'Meanings cannot be transmitted. Meaningful sets of symbols can . . . Each person has to make his own concepts.' A teacher cannot dish up instant meanings to his class. Only by personal involvement can the learner understand or discover meanings, because these have to be correlated with

relevant anchoring ideas in the existing cognitive structure, which forms the learner's unique functional knowledge.

It is, of course, quite possible to memorise the linguistic symbols of concepts without understanding them, but this is not a necessary outcome of expository teaching. The teacher discloses the material to the learner by a process of double disclosure (Klafki) because he must also *disclose* the learner to the material, i.e. activate and sensitise the necessary anchoring ideas in the learner's cognitive structure. It then remains for the learner to assign meaning through his own involvement. The type of learning induced by expository teaching is called receptive learning (Ausubel 1968) and is, as we have seen, by no means passive but charged with significance.

Learning by discovery is certainly meaningful, but in our present set-up the individual learner does not always have time to arrive at knowledge by the route of discovery. Where the teacher has to assist by partial explanation, Ausubel says (1968, p. 504): 'The most efficacious type of guidance (guided discovery) is actually a variant of expository teaching that is very similar to Socratic questioning.'

Expository teaching is necessary. The subject matter must be explained at the child's cognitive level of development. It then becomes logically meaningful, and potentially meaningful to the learner. The relevant anchoring ideas must be isolated so that the new meaning can be fitted into the comprehensive structure. If no anchoring ideas exist, combinatorial relationships are possible: and when these are not properly effected, the learner will learn by rote. Both these cases give rise to unstable meanings that soon fade. Expository teaching remains an essential didactical activity with vitally important psychopedagogical implications. To teach in this way, the teacher must have mastered both the subject matter and the method of exposition. He must also be aware that he is not engaged in a mere logical exposition that will automatically result in understanding for the whole class. Exposition is done for the pupil's sake: some understand readily, others not. This phenomenon persuaded Carroll (1970) that aptitude is simply the time a learner needs to complete a learning task. When a large number of individual pupils have understood, successful teaching has taken place. As Bloom says (Block 1971, p. 52): 'The main point to be stressed is that quality of instruction must be developed with respect to the needs and characteristics of individual learners rather than groups of learners.' The teacher must always be aware that his expository teaching is intended to kindle understanding in individual learners.

He must make allowances for differences in cognitive style, which may be analytical or non-analytical in varying degrees. Where one learner has a substantial cognitive structure, that of another may be diffuse and not very functional, so that one needs more time than another to understand.

These differences are crucially important. Analytical and non-analytical children will behave differently in the class-room. The non-analytical child is more impulsive: he wants immediate answers and relies more on contributory factors (field dependent) than the analytical child, who can concentrate for longer periods, try various solutions and work on his own without being influenced by what is going on around him (field-independent) (Gordon 1966, p. 27). Tests exist to distinguish between analytical and non-analytical children (Kagan, Moss & Sigel 1963), but these are not always effective in the class-room. It is better for the teacher to remember that the analytical child will break up a situation into its components and will differentiate between them, while the non-analytical child tends to interpret the meaning of the interrelationships between components while not necessarily being aware of all the components.

The quality of the cognitive structure is equally important. If one child does not know a given concept while another does this is not a sign of lack of ability. He may simply lack relevant experience. If a core concept is missing, the child will be handicapped in thinking that involves this concept. Quite apart from the possible absence of some concepts, Ausubel (1968) emphasises that all concepts in the cognitive structure must be clear, unambiguous and stable. Only then can we speak of an organised body of knowledge. One child may of course be content with vague, diffuse meanings while another takes the trouble to form clear, unambiguous ones. The problem is that the first child is convinced that he, too, knows the work. The onus is on the teacher to differentiate between the two and to bring them to the same level of comprehension before continuing.

The third crucial factor is for the teacher to be aware that some pupils need more time than others to complete a task. Carroll (1963) (J.H. Bloxk 1971, p. 50) goes so far as to assert that '... aptitude is the amount of time required by the learner to attain mastery of a learning task.' Perseverance may be seen as the time the learner is prepared to devote to the task. The emphasis is on the individual: it is he who must learn and know. It is highly desirable that each pupil should be allowed all the time he needs to master a given learning task.

10.10.3 Educational help as help in learning

Expository teaching assumes that the pupil has to be helped or supported. There are various steps in learning, and this means that we shall have to look at the categories in respect of which the learner needs help.

10.10.3.1 Help in motivating the pupil

A teacher is specifically responsible for motivating a pupil to learn. The problem is to bring the child and the subject matter into active dialogue. It comes naturally to a child to want to know, to want to orient himself, to associate with people, to belong and to be recognised and accepted in his own right. He has the urge to realise his potential but does not know where this potential lies. It is up to the teacher to formulate these possibilities as a series of significant and concrete objectives. To do this, he has to consider the child's unique possibilities. High marks in mathematics will prepare one child for medical school, another for engineering, etc. The child must be enabled to direct his psychic vitality towards an objective that is meaningful and attainable to him. To this end he needs help, also the praise that will assure him that he is on the way to achieving his objective. Motivation calls for constant encouragement from each objective to the next. In the pedagogical context, academic excellence is never an aim in itself; it can, at most, support the child's self-actualisation by placing developmental aims within his reach.

Getting a child involved in a learning task is mainly a matter of meaningful formulation of goals (for the child) and of activating and intensifying the will to attain these goals. There must also be a linking-up with existing interests and an encouragement of interest. The experience of success, and recognition and praise for success, mean more to the child than threats, punishment and anxiety because they assure the learner that the path he has chosen will lead to his goal (Roth 1959, p. 84) and because they enhance his self-esteem.

10.10.3.2 Help in selecting types of learning

It is clear at a glance that there are different types of learning (see chapter on this subject). The goal of learning, for the learner, is to assimilate a given portion of the subject matter or verbal or symbolic formulation. Involvement is a prerequisite. Such involvement, with understanding and assimilation as a goal, manifests itself in a type of learning adopted as a method. Sometimes the degree of involvement will also be reflected

in the method itself. The type of learning as an action – whether physical (typing) or psychological (multiplication tables) or, differently put, perceptual – motor, perceptual and conceptual – comprises type as well as quality. Cognitive style and psychic vitality plus meaningful psychological and physical action underlie the types of learning advocated here. Learning is the comprehensive idea including all learning tasks. The following learning tasks must be noted and remembered:

- (a) Names, discrete objects, dates, etc.
- (b) Self-evident concepts and statements.
- (c) Concepts to be formed.
- (d) Concepts to be assimilated.
- (e) Problems (convergent and divergent) to be solved.
- (f) Physical skills.

Some learning actions may involve repetition, such as names (e.g. botanical), or dates (in history) which require exact reproduction, whereas in other cases it is the formulation and assimilation of understood concepts that must be remembered. In the case of physical skills much practice is needed before automatisms can come into play.

Teaching always consists of the facilitation of learning. Our interest here is less in the method than in the nature of the educational help involved in the various types of learning. Too many learning tasks are learned by rote. The teacher must know how a given learning task can be assimilated by a given learner. It is true, too, that some teachers give credit only for literal reproductions. The result is the mechanical memorisation of subject matter that should have been understood. Mnemonics has its place, but it must not be used to reproduce mechanically what should have been understood.

If the teacher is to give proper prominence to meaning and to comprehension by the learner, he must be mindful of the incorporation of meanings into the cognitive structure. New concepts, to be formed mainly by induction, must be made familiar by plenty of examples so that the pupil, with or without help from the teacher, can make the necessary generalisations. Concepts to be incorporated into the cognitive structure need to be fitted into the relevant superordinate concepts. To this end, the right anchoring ideas in the pupil's cognitive structure must be activated and sensitised. In didactical terms this is called an aspect of the actualisation of pre-knowledge.

In expounding and disclosing subject matter, the teacher must guide the pupil so that he will not try to memorise what must be understood. Understanding does not ensure automatic recall. Even when he understands, the pupil may still have to put much time and effort into making it his own. This kind of repetition means that the pupil understands the material and *remains involved* by meaningful practice. Some will take

more time than others before their understanding is adequate. It is the teacher who must help the child to find the appropriate type of learning for the task.

10.10.3.3 Help in achieving insight

Success in learning indicates that the right solution has been found or that insight has been achieved. Something must strike the pupil, whereupon it must dawn on him (Roth 1959, p. 97). Insight, inspiration, the 'Aha experience' are terms indicating that the learner has discovered something that was relatively new to him. In the writer's view, insight can occur only *when the learner is involved with the problem or task*. The degree of involvement is less important at this stage; but whether the pupil is involved in learning by discovery, problem solving, assimilation of concepts or receptive learning, involved he must be if insight is to dawn.

An insight is never a bolt from the blue. The learner's experience and objectives play an important part: insight is built on preknowledge and on orientation to goal achievement. The pupil must tackle the difficulty himself, think and find for himself and be co-responsible for the solution. Some pupils will achieve insight sooner than others: it is not governed by mechanical principles.

The teacher's clear task is to lead his pupils to insight. He must expound to that end and provide opportunities for involvement so that insight may follow. Even in learning by discovery, the teacher guides pupils towards insight. He must be aware of the need for patience, because time is needed for real, independent solutions. As Roth (1969, p. 109) puts it, the sudden perception of the implications of an insight may also be experienced when the teacher has provided the full solution, but the liberating force of the insight must, with the teacher's help, be fully experienced, and this is only possible when they have been wrestling with the problem together. Van Hiele (undated) agrees. For insight to emerge, there must be adequate structuring and an effective use of language. It follows that learning with insight is the fruit of teaching with insight (Van Hiele -, p. 17). It is therefore the teacher's responsibility to guide the pupil in such a way as to induce insight.

10.10.3.4 Educational help in establishment or consolidation

When insight first dawns, a learner cannot claim that he really knows

the subject matter. Often, insight is transformed into authentic knowledge only when it has been acted upon. Even when the pupil has understood and even successfully completed an example of division, square root extraction, multiplication by logarithms or whatever, he will have to wrestle with many such examples before he can claim to know the work. Pupils often fail to solve problems at home where they have no difficulty in class. And teachers often ascribe such failures to laziness, to the considerable annoyance of both parties. Roth (1969, p. 114) puts it this way: once the insight has been achieved, the teacher will spontaneously initiate the active phase so that insight through action may be established. He will see to it that the insight is applied, so that insight by experience may be added to intellectual insight.

A clear responsibility of teachers is to guide pupils by way of adequate and effective action (physical and/or psychological) to authentic knowledge. Only in this way can establishment take place (and one wonders whether establishment is not sometimes impaired by overloaded curricula).

10.10.3.5 Educational help in actualising learning results (recall)

One learns to know and to remember what one has learnt. We are assuming that the pupil has achieved insight and that insight has been reinforced by action. He must be able to recall or actualise this knowledge after a lapse of time. Such knowledge cannot be measured: only when the consciousness is directed at it will it become evident how much a particular pupil can recall. At school this normally happens by way of tests and examinations.

The teacher's job is to ask the right questions to enable a pupil to recall what he has learnt. A memory trace is actualised only when there is a connection between the actual situation (question) and the learning result. The objective is not merely to diagnose or categorise pupils: that, says Gordon (1969, p. 27) '... is a dead-end, meaningless operation. The goal here ... is increased insight into the child, so that learning situations can be constructed to foster his intellectual development'. In other words, tests are not set to evaluate a pupil's academic achievement. The marks obtained do have some use for evaluation, but the main objective is to enable the teacher to support the pupil by way of guided actualisation to self-actualisation.

10.10.3.6 Educational help in transfer

Transfer describes the influence of knowledge mastered by the learner in one situation on his achievement in another situation. The influence may be negative as well as positive but we are concerned with positive transfer. The significance of learning according to Bruner (Clarizio, 1970 p. 294) is: 'It matters not what we have learned. What we can do with what we have learned: this is the issue.'

Research (cf. Clarizio et al. 1970, p. 282 ff.) has shown that teaching methods are vitally important. Teaching must be aimed at the transfer of knowledge. If mathematics is taught to help the pupil to think or to solve physics problems, or whatever, mathematical principles must be constantly and explicitly applied to this end. The same is true of any other subject. The possibility of transfer determines the teaching method and also the selection of material with a view to application.

Transfer does not take place automatically, and the teacher has a grave responsibility to teach in such a way that the pupil's knowledge will be functional in new situations.

10.11 SUMMARY

The teacher is an adult and a citizen. He relates socially to other adults. Sport and other leisure-time activities are determined by his own interests. This is vital if he is to be a balanced, mentally sound person. But we are explicitly interested in him as a professional person. Little can be said about this except within the framework of education and teaching. Whatever the teacher's developmental level, he is responsible for the children or youths entrusted to him, whom he must both teach and educate. This responsibility will be manifested very differently at different academic levels, from pre-school to post-school, and so will his teaching and educational involvement. We have been looking at some vital aspects of the professional teacher from the perspective of teaching and education.

We see the teacher as a person with a realistic self-image who communicates spontaneously with both parents and pupils. He must know his subject(s) but must also have wider intellectual interests. Since he is teaching pupils, not subjects, he must know his pupils at every level of their development. He must understand the mechanics of learning if he is to give effective help to learners. All this should be done without getting entangled in didactical problems as such. The teacher remains the person who must effect an encounter with the educand, intervene or assent where necessary and withdraw control discreetly so that the desired self-actualisation can take place.

Learning and the learning process

11

CHAPTER 11

Learning and the learning process

Becoming and learning are interactive and interdependent. The small child embarks on the world armed solely with his potential and an insatiable urge and determination to grow up.

He is confronted with problems and obstacles that need to be overcome. At the same time these present a challenge in that he still has to *learn* to grab or reach for things, to handle them, to walk, run, write and a whole host of *physical skills*. At first he only wants to handle things and indulges in this activity to his heart's content. Later on he wants to know why. The unknown begins to fascinate him, which leads to a spate of 'why's' that wear out most adults, particularly since he continues his interrogation before he has digested the answer to the first question. He perceives a broad spectrum of unknown realities in respect of which he has to find his bearings. He has to see, hear, understand, differentiate, reintegrate, etc. He must learn language in order to communicate. At the same time words serve to convey concepts. At school he has to be taught the relevant *subject matter* – not by forcing him (or drumming it into him), but by way of satisfying his thirst for knowledge. He wants to know and orient himself. A small child will lie on the ground in a tantrum, hitting out aggressively and breaking things. He must learn to control his *emotions* in accordance with cultural norms. He must learn how to *conduct* himself. This includes table manners, sitting at table, behaviour on the sport field, in church, towards his superiors and towards his inferiors.

The whole of life is a composite hierarchy of authority. In western society the exercise and acceptance of authority, however democratic, can never be argued away. Ultimately the authority of norms has mandatory force. As far as the child is concerned, the parent represents the norm and is the bearer of authority. He must learn to submit to the *authority* of parents and teachers. In this way he learns to obey moral and cultural norms.

This empirical survey of the various fields of learning demonstrates that it is not purely a matter of teaching, i.e. of cognition. To the adult teaching which enables a child to learn successfully is an educational issue, to the child it is a matter of becoming and as such a human problem. In each child the urge to improve himself, the aspiration to higher things is present in the form of a desire to know what he does not know, to master what he cannot do. This innately human desire is designated by various names. Some scholars (like Maslow) prefer *self-actualisation*; others (e.g. White) like *competence*, yet others (e.g. Allport) settle for *becoming*, while authors like Langeveld refer to *being someone in one's own right*. Speaking of the child's realisation of his potential, Coetzee (1953, p. 139) comments that the intellect comes first and is always a factor. Intellect precedes other forms of mental expression, so that Coetzee (1953, p. 139) refers to becoming as *rational self-determination*. In this he agrees with Frankl's dictum that man's search for meaning is a primary force in his life. We accordingly isolate the child's cognitive drive as a primary force operative in all mental activities. This drive and its manifestations will develop progressively in interaction with these activities.

To become more adequate, the child must learn continually. The child in his totality becomes increasingly involved with learning, a process in which his rational or intellectual faculties take precedence over other psychological activities. He lives in a world of information and meanings, values, explanations of the rational norm in every sphere; at the same time he must discover for himself the meaning contained in this information that is fed to him. Combs writes: 'Information will affect a person's behaviour only in the degree to which he has discovered its personal meaning for him' (Read and Simon 1975, p. 125).

Attribution of meaning – whether it entails emotional control, perfect behaviour or a second-degree algebraic equation – is attained through LEARNING. As we have pointed out, effective learning requires involvement with the process of learning or attribution of meaning, something that is possible only through the intentions of the individual. In simple terms this intention can be formulated as '*the child's conviction that successful learning of an assignment will make him grown-up, or at least more grown-up and more adequate*'.

Even though a particular component of the adequate self needs to be actualised, it involves the person in his totality so that self-actualisation is in fact rational self-determination. Success will intensify the quality of meaning. One need only think of the radiant face of a small child who is applauded when he takes his first few steps, or does his first sums correctly. In becoming and learning, attribution of meaning, involvement and experience remain as triad a valid category, while self-concept is a

contributory factor and the whole process revolves around self-actualisation.

We can distinguish certain *logical steps in the learning process*. Attribution of meaning through learning is assured only if there is a clear intention or learning goal. The child will learn only if he wants to realise this goal. A detailed analysis of such *volition in the sense of motivation* is justified.

Depending on the goal, the learning act or attribution of meaning will be accomplished in a variety of ways. Sometimes it will be predominantly physical as in the practice of such motor skills as cycling, at others it tends towards the mental, such as grasping the concept of specific gravity. Sometimes learning is little more than repetition in context, as in enumeration. Hence we should take due note of different *types of learning*.

Since the individual has to discover the significance of a concept, act or mode of behaviour for himself, he must be able to appreciate connections and relationships. *Insight as initial success* therefore deserves attention.

Experience has shown that early success rarely assures lasting competence. This is as true of the first correct leap from a horse in gymnastics as of personal victory over aggression through self-control and the successful solution of a trinomial into factors. Such successful acts *must be reinforced* so that they can be attained consistently in order to achieve *permanence* in successful learning.

One can only speak of success once a learner is able to recall the learning that has been consolidated. This is a matter of *retention or memorisation and recall or memory*, which have to be dealt with as such.

Once a learner can apply his knowledge in new situations, this indicates that it has become functional. Application of knowledge in new situations is known as *application or transfer*, which is the final proof of successful learning and therefore worthy of note.

If from infancy the child finds that his efforts secure only moderate success, he will, irrespective of the reason for this, develop a *style of learning* that expects only moderate success. This reduces involvement to correlate with mediocre results. Despite countless individual differences, this trend is manifested by children who cry out in frustration: 'What is the use of trying? I'll never come first in athletics or in class or earn my teacher's approbation or recognition for my efforts!' The effect of this is a learning style that integrates involvement with low expectations. We shall also examine motivation as the will to learn, types of learning, initial success, consolidation and transfer. These various logical steps in the course of learning are known as the learning process. In any particular learning assignment some of these steps will feature more

prominently, while others will be omitted. There is nothing inevitable about it. Successful completion of each step depends on the necessary educational and/or teaching assistance.

To sum up, one could say that a child learns the following:

- (a) Physical and motor skills
- (b) Attitudes and behaviour
- (c) Knowledge in the form of concepts and ideas
- (d) Acceptance of his self-identity
- (e) Moral and religious norms

Successful learning always involves man in his totality, and understanding plays a greater or lesser part throughout. Hence learning may be defined as an action whereby new relationships are established or existing ones improved. In what follows, the emphasis will be on meaningful verbal learning.

The child wants to learn (motivation)

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CHAPTER 12

The child wants to learn (motivation)

12.1 INTRODUCTION

The child's learning is directly concerned with his growing up. He learns in order that he may grow up and each level of becoming poses new demands or obstacles which require learning. The child learns what he does not know or cannot accomplish; otherwise he learns to handle more effectively what he has already partially mastered. In the learning situation one observes individuals who learn reluctantly or eagerly or with a measure of concentration falling somewhere between these extremes. When a child learns, there is always some goal or intention, something the learner does not know or cannot do. This goal is important enough for him to want to achieve it. His involvement in the learning act, which will depend on various factors, definitely determines his success. Since the degree of involvement varies so much, we are justified in asking what determines its intensity. *This intensity of involvement is also known as motivation.* Earlier (see involvement) we pointed out that involvement implies a goal to be realised, one to which meaning has been attributed and which is significant.

The fact that a particular goal is preferred indicates a deliberate volitional decision. The learner wants to realise this goal. Hence he is involved because he chooses to be involved. We also mentioned that involvement is defined in terms of psychic vitality. The learning child must understand the goal of learning and rate it as important enough to want to realise it. His volition must moreover be activated, to which end psychic vitality is essential. An individual shows vitality when he wants to realise a meaningful goal in his situation. The child is always in a situation where he forms relations, hence we could say that he is always related. This raises the question as to what determines the quality or intensity of involvement. In other words, what circumstances or factors

decide or help to decide the person's desire to achieve his goal, and what impairs it.

12.2 THE INDIVIDUAL AND HIS VITALITY

In this context man as an individual must be seen in relation to his world and in his orientation 'that guides and directs the person's whole existence as an individual being-in-the-world' (Reeves 1977, p. 155). He assumes responsibility for himself and his world. The task of the will in the sense of basic intentionality (May) is to regulate and integrate his relations with self and world while remaining directed at the actualisation of potential. Volition is not simply a choice between alternatives. It is the individual's conscious, decisive action aimed at a value in the sense of a goal. As a conscious act, volition means that the individual is aware of something, inclines to it 'and (it) has within it, no matter how latent, some push toward a direction for actions' (May 1970, p. 230). *This driving force towards a goal* is the primary centre of interest in this section. Drive or motivation is a component of volition and is best expressed in volitional acts (see involvement) with their attributes –

- (a) *a cognitive dimension*: all relevant aspects are known (as are the alternatives and the implications of personal involvement);
- (b) *goal aspect*: not only are the various goals known, but also their relevance to the ultimate objective of self-actualisation and oneness with the community; and
- (c) *accountability for choice*: meaningful goals are ranked in order of priority so that the choice is made responsibly and the individual is accountable for it.

The execution of a volitional act will reflect the driving force or psychic vitality. In contrast with instantly accomplished decisions, such as the decision not to crib in an examination, we have the choice of a particular course at a university, which will take years to complete.

12.3 INSTINCTS AND IMPULSES AS DRIVING FORCES

Human beings have instincts such as the urge for food, the sexual drive, etc. These obviously move him to act: when one is hungry, one will look for food. In his theory of instinct McDougall distinguished some eighteen instincts that are innate psycho-physical dispositions. The striving to act is born and culminates in specific behaviour. In the same way Freudian drive theory, which distinguishes a life wish and a death wish,

explains all behaviour in these terms. Von Monakow posits a primeval drive or primeval norm expressed in the following instincts:

Instinct for self-preservation, sexual instinct (libido), social instinct and cosmic instinct (which includes everything with which the individual comes into contact apart from the first three aspects).

Apart from instincts, man's primary needs also move him to action. Thus we have A.H. Murray's 20 psychogenic needs, each of which constitutes a motive for a specific act. Maslow's six needs, because of the order of satisfaction, are placed in hierarchy of prepotency. The impulse as primary act is also important. It requires unintentional and instant responses such as fear-flight; fatigue-sleep; injury-tears; attack-defence. Although impulses are conscious and require spontaneous action, they are complex and not easy to control.

What we have said about instincts, impulses and needs as motives constitutes an incentive to action, but we do not pretend to account for all action in terms of instinctual motives. In this regard we subscribe to May's view (Reeves 1977, p. 27): *'The simpler is to be understood in terms of the more complex.* Given the reality of self-consciousness, the human being does not merely engage in reproducing his own species, for example, but consciously assumes an attitude to his own sexuality and exteriorizes meaning through it.' In the same way a hungry man will not proceed blindly to snatch and steal food. His orientation to cultural norms and his own ideals, expectations, etc. will help to determine the nature of his hunger-satisfying behaviour. This ranges from Ghandi's hunger strikes, when he refused food for long periods, to women who consider their weight and count every calory before they decide to eat.

It is a common phenomenon that an individual may be bored, apathetic and listless but will suddenly perk up and be full of energy if anything happens to excite his interest. He will then devote himself to the new task with full dedication. Sometimes a mother with a sick infant will drop off to sleep in sheer exhaustion, but when the child coughs after a couple of minutes she will be wide awake, active and busy, showing little or no sign of fatigue. *The psychic vitality that prompts action derives from the meaning attributed to the situation in hand, which in turn coincides with the person's subjective Sinnqanze (total meaning). This relationship of meaning appeals to the individual to act appropriately and responsibly.* There is not much psychic vitality involved when a person is deliberately resting or relaxing. Psychic vitality presupposes confrontation with a situation or obstacles that the individual wants to overcome, or a goal – either immediate or remote – that he wants to attain. Meaning is attributed to the total situation, a process in which not only the cognitive but also the affective and conative functions are concerned. Attribution of meaning implies involvement and experience. Since the individual himself wants

to attribute meaning he assumes responsibility for acting appropriately. Depending on the seriousness of the situation (as evaluated) the individual will behave with greater or lesser seriousness, dedication and energy (physical and/or mental) in order to realise the goal.

12.4 VOLITIONAL INTENTIONS

The supreme goal of education is undoubtedly adulthood, but this is readily divisible into three categories, viz. the individual's world of meaning in which he is oriented, belonging as an attribute of his complex relations with significant others, and an adequate self that assures him of an accepted identity and the awareness that he possesses certain powers and knowledge. Self-actualisation takes place along with participation in the sense of co-existence with other people. An adequate self will only emerge if the individual experiences effective relationships with other people, things, ideas and himself. Various authors describe these distinct (if integrated) goals as self-enhancement. Cattell speaks of self-assertion; Stern, Von Monakow and Ausubel of self-enhancement, while Rogers calls it self-realisation and Maslow self-actualisation. As self-identity develops, the *will* to maintain and improve this growing self becomes progressively more cogent. This seriousness and urgency persuaded Combs and Snygg (1959) that the individual's total involvement with self-preservation and self-development is the anthropological arche-type of all motivation.

Following on the conclusions of these two authors we shall clarify the concept in more detail.

12.5 SELF-MAINTENANCE AND SELF-DEVELOPMENT AS MOTIVES

Some present-day investigators link the idea of basic motives mentioned above with the assertion that the "self" is the central factor in learning events. Probably the most important of these investigators are Combs and Snygg.

The primary point of reference from which the child perceives his life space and thus attributes significance to it is his evolving self-concept. He himself is the centre of every relationship that he establishes with the objects, ideas and people in his life space. Since we are here dealing with relationships, there can be no question of cause and effect. The person himself is thus the central factor in his own development. "As we have seen, Combs, Snygg and Rogers believe that the maintenance and

enhancement of the perceived self is the motive behind all behavior" (Purkey, 1970, p. 12).

By the time he goes to school the child knows a good deal about himself, other people, his physical-cultural environment and his language. At this stage he already has a kind of dual image of himself. He has learned many things about himself – his appearance, his abilities and his behaviour – from the actions of other people towards him and from his own feelings about their actions. This knowledge provides him with a concept of his perceived-self-in-the-world. In the course of his association with his educators he hears a great many "do's" and "don'ts" relating to ideals, values, expectations and developmental potentialities. The self-image, at first vague and diffuse, becomes more distinct as time goes by and as it is identified with aims and values. Thus the child develops a concept of an adequate self which is what he thinks he ought to be. Neither concept – that of himself in the world and that of his ideal self – is necessarily realistic.

This dawning of consciousness, and the processes of significance attribution and acquiring knowledge are largely cognitive in character; but the relationships thus established in the life space acquire greater and more permanent meaning through affective experience.

Because the self-concept and its development constitute so powerful a force in human actions, Beatty and Clark (1968, p. 165) prefer to speak of a motivational situation or state: "A motivational state is the necessity to make congruent some discrepancy in the self-system." A motivational state develops whenever there is any difference of any kind between the perceived-self-in-the-world and the concept of the adequate self. There is often a high degree of correspondence or harmony between the *is* and the *ought to be*; but great differences are not uncommon and they may be very significant and important to the person concerned. As soon as the person (whether child or adult) notices a discrepancy or gap between his perception of himself and what he believes he could and should be, he tries to eliminate the difference. *He is then motivated to embark on a course of action which he believes will eliminate this difference.* The action must be one which he is capable of carrying out successfully, and successful execution must mean an increased realisation of his adequate self or ego ideal as he sees it.

Every motivational state requires that the person (whether child or adult) should engage in perception and significance attribution, and that he should be totally involved in these activities. Meaningful relationships are intensified and consolidated by the quality of the person's experience.

If for example a child who cannot read sees his adequate self as a person who can read well, he is in a motivational state in which he de-

mands of himself the endeavour to read. If he sees himself as someone who can read well enough, that is, well enough to accord with the ideal he has set himself, he will not be motivated to improve his reading. If a pupil sees himself, according to his marks, as a *50 percent* but conceives of himself ideally as a first-class matriculant, he is motivated to work harder. The student's seriousness, dedication, application and perseverance will indicate the degree of difference between his perception of himself at the moment and his perception of his adequate self. *The quality of the pupil's involvement in learning activities, as manifested in characteristics such as serious-mindedness, attentiveness, advertency, interest, devotion, willingness to work and perseverance, will indicate the intensity of the perceived discrepancies which create the motivational state.*

One person will see his adequate self as a rugby Springbok, another as a doctor, another as a research worker, etc. This shows that perceptions of this nature are loaded with values and valencies.

The activities by means of which the above-mentioned discrepancies are eliminated may be described as providing personal gratification or satisfaction. As the horizons of his life space expand in consequence of new sensations and awarenesses, significance attribution and the construction of more comprehensive and more complex relationships, the child or student becomes aware of new dimensions in his concept of an adequate self. As he becomes more involved in physical and cultural values his satisfactions become more complex. If a woman feels hungry, she does not simply go ahead and eat in order to satisfy this physiological need. The manner of satisfaction depends upon her perception of herself: it is this that determines *what, how much, and when* she eats.

Curiosity and the fact that he is developing cause the child to identify with adults and with his own idea of adulthood; at the same time however, he sees himself as a child lacking knowledge and abilities. He believes that he will be able to realise his adequate self at school, the place where people learn. This is the relatively vague and diffuse motivational state which urges the child to participate and to learn, and which rewards every small achievement with the sense of satisfaction that is so necessary for progress. When he recognises a word, spells a word correctly, knows the right answer to a question, gains full marks in a test, he experiences a feeling of satisfaction, for he sees himself coming closer to his concept of an adequate self. Definite objectives and the experience of success are indispensable with regard to this feeling of satisfaction, the feeling that one has made sufficient progress towards the realisation of an adequate self.

Repeated and regular failures mean that the child experiences little or no satisfaction. In such cases the motivation to study the subject con-

cerned will dwindle and disappear, even if it was adequate at the outset. From the child's point of view, his study of the subject is not helping him to elevate his self-image. In order to maintain himself he will choose some other means of self-actualisation.

12.6 OBSTACLES TO VOLITIONAL BEHAVIOUR

Even though an individual may have attributed meaning to a particular goal, he might encounter obstacles that restrain him – completely or partially – from the volitional action required to realise it. There is a wide range of such obstacles, including cultural and religious norms, environmental limitations, family influences, biological handicaps and psychological experiences that thwart the will to attain the ideal. Practical examples abound, so that a single illustration will suffice. A child who loses his foot in an accident is no longer able to realise his ideal of becoming a champion sprinter. Because of the child's total personal involvement with his world he must attribute meaning to his possible goals in a responsible way. Some will be rejected, others will be restricted or modified. Although the dynamic ultimate objective remains orientation or belonging or adequate self (even if the content is adjusted), and this objective retains its valence, the way towards it may be altered to suit the circumstances.

To anyone, including the child, a negative self-concept constitutes the greatest single obstacle to the realisation of a goal. It thwarts motivation.

12.7 SUMMARY

The human problem of volition has remained unchanged through the ages, viz. a struggle between what man is and what he surmises that he can or ought to be. The goals that are beacons on the way must be understood, as well as the implications of actions towards realising these goals. *The necessary psychic vitality is obtained from the individual's responsible attribution of meaning to goals, both immediate and remote, and to the relevant volitional acts.* This driving force or motivation is reflected by the quality of his involvement. Since he has to find his own way to an adequate self, only total psychic involvement will indicate motivation and prompt, impede or direct action. Educational help will assist the child in understanding his goals, modifying them and attempting more effective behaviour.

12.8 EDUCATIONAL FACTORS RELATED TO MOTIVATION

As we have indicated, motivational states develop hand-in-hand with the child's development and his growing curiosity about and involvement in his experiences of previous and new situations, and his attribution of significance to these. There are thus a number of factors which are related to and which exercise an influence upon the motivational state or situation. *The activation of a person's motivational state to heightened functioning with a view to achieving an aim or aims – whether this is done by himself or by another person – is called motivation.*

An alteration of a person's motivational state (by himself or under the influence of some other person) will be effective only if he is able to see both himself-in-the-world and his adequate self as potentially different from what they are at present. Factors that may exercise an influence in this connection include the following:

12.8.1 Interest

A person cannot take an interest in things if he knows nothing about them. The small child attributes significance to the things around him in terms of his own needs. But this senso-pathic significance attribution is transferred to other levels for the will to know, to understand and to be able to do things is inborn. Thus life space or the world that is meaningful for him expands. This expansion means that he pays attention to and takes an interest in an everwidening range of things. Interest is directly related to what the person can do and what he has already learned.

Interest has a personal-subjective character and is therefore related to values. A person can never be indifferent to a matter or an object in which he is interested. Interest implies a deliberate direction of attention, and is therefore a completely voluntary attitude. The more interested I am in any subject, the more alert I will be in connection with it and the more I will remember about it. Interest means that I will notice only a limited portion of all the data present in any given situation. Because there is this connection between interest and advertency Kuypers' (1963, p. 86) remark on the latter is equally true of interest: "(wij) hebben in de opmerkzaamheid te doen met een daad van het ik". Interest is extremely important with regard to motivation, because the direction of a person's interests determines the nature of his adequate self. And the intensity of the interest indicates the urgency of his need for self-actualisation in that particular direction.

Empirical studies (Jersild and *Tasch*, 1949) (Sawrey & Telford, 1968,

p. 307) indicate a high positive correlation between interest in school subjects and achievement in those subjects. Of course interaction is involved here, because a high level of achievement in a subject tends to increase one's interest in it. The experience of success elevates the self-concept and indicates that it will be possible to realise an adequate self in the field concerned.

12.8.2 Co-operation and competition

The child can meet the demands of society only in co-existence with other people. Reactive education (Brandenburg, 1970) and the guidance provided by adults must proceed in a spirit of participation. Democratic co-operation between teacher and pupils in the classroom is conducive to successful learning.

By co-operating with a few people, the child can complete a greater number of tasks more easily than would otherwise be possible. If a good spirit of co-operation exists the pupil feels encouraged to make his own contribution and therefore studies harder and with more inspiration.

By competition we mean both individual self-competition and general mutual competition among the pupils. A certain amount of strain and competition have a motivating effect if the possibility of success is within the reach of all participants. An even balance between competition and co-operation seems to provide the most effective motive activation.

12.8.3 The role of success

If a pupil has a clear concept of his adequate self and is applying himself to his work, success provides him with additional motivation, for it represents the fulfilment of his expectations and convinces him that he really has acquired knowledge – a conviction which in itself enhances his self-concept. Success gives the pupil a feeling of personal achievement: he feels that he has a securer hold on reality, that his horizons have expanded, and that his expectations as regards his adequate self are being fulfilled. Kurt Lewin (1944) showed that the aspiration level rises after every success and that definite hinderances tend to disappear as the test subject gains confidence in his own powers and abilities. Cronbach (1954) found that the more intense feeling associated with success, the greater the subsequent rise in the level of aspiration. Sears (1940) was able to show that children who had experienced success in a particular subject and who had thus gained confidence, set themselves

higher, though not unrealistic, aims in respect of that subject than they did in respect of subjects in which they had been less successful. Once their aspirations had been raised (altered) their self-concepts were also revised, for aspirations are closely related to the self-concept and any alteration means that the person feels nearer to or farther from the adequate self. A reasonable measure of success is always necessary if interest is to be maintained and involvement ensured. Cronbach (1954, p. 423) says: "Success leads to heightened interest and effort." When success reflects learning competence, therefore, the motive for learning is reinforced. Coopersmith's (1967) penetrating study of self-esteem revealed that academic success was one of the factors that raise people's self-esteem.

12.8.4 Cultural and family influence on motivation

The motivation towards learning, as revealed by the percentage of pupils who go on to complete a university or college course, differs considerably from one cultural group to another. There are also motivational differences among the sub-cultures distinguished from one another by differences in status. Gordon (1958) found among other things, that an aversion to school attendance was more common among lower-class than middle-class children.

Social and religious influences reach the child mainly through the medium of the family. The child's eventual achievements and the educational level he reaches correspond very largely with the expectations of the parents. Encouragement in the home is a necessary condition for continued study. Halsey (1961) investigated learning motivation in two groups of students. The test subjects came from the same community, had comparable intellectual capacities, and similar financial resources. One group consisted of university students and the other of young people who had not undertaken university studies. The difference in motivation was ascribed to the encouragement given by the parents of the university students. Children sometimes rely too heavily on parental encouragement for motivation towards study. Teahan (1963) (Sawrey & Telford, 1968, p. 299) found that this excessive dependence can lead to failure or under-achievement at the university level. In such cases extrinsic motivation has not been converted to intrinsic motivation.

12.8.5 The teacher and motivation

The teacher takes the lead in many of the events that occur in the edu-

cational situation. He can therefore exercise a tremendous influence on the motivation of the pupil, i.e. on his will and willingness to learn. The following aspects merit attention:

12.8.5.1 Aim

By an aim we mean a clear cognitive awareness of what is being sought. In the process of learning it is difficult, indeed almost impossible, for the pupil to imbue remote aims with immediate content. Vague aims therefore cannot activate him towards the realisation of his adequate self.

The teacher should help the child by formulating aims – both immediate and remote – which hold significance for him and which relate to the realisation of his adequate self. Klausmeier and Goodwin (1966, p. 441) refer to studies which resulted in the following conclusions regarding aims and motivation:

- (a) a learning task may be so difficult that the pupil cannot set himself a realistic goal for the achievement of success;
- (b) a learning task may be so easy that success requires very little effort and thus has no motivational effect;
- (c) children who trust their teachers and who have secure points of reference set themselves realistic goals with regard to exploration and significance attribution. They also show more perseverance in trying to reach these goals;
- (d) low aims are often associated with a deep-seated need to avoid failure;
- (e) people who are very unsure of themselves experience a feeling of success if they formulate goals that can never be reached;
- (f) the class group influences the aims of the individual.

Since the achievement of aims represents successful learning as far as the individual is concerned, and thus points the way to his adequate self, the teacher can offer valuable support in this regard.

12.8.5.2 The atmosphere in the class

Purkey, (1970, p. 50) mentions the following six factors as conducive to a classroom atmosphere that will tend to elevate the self-image and thus to heighten motivation:

- (a) **Challenge.** Any challenge should be realistic, and should be issued only when there is a reasonable chance of success;
- (b) **Freedom.** Self-respect can hardly develop in an atmosphere in which freedom of choice is lacking. Freedom of choice should be per-

- mitted in an atmosphere free from threats and anxiety;
- (c) *Respect*. The pupil or student should be treated as a person, and with respect. "Whenever we treat a student with respect, we add to his self-respect, and whenever we embarrass or humiliate him, we are likely to build disrespect in him both for himself and for others" (p. 52);
 - (d) *Warmth*. A learning situation in which the learner experiences psychological safety and security is conducive to the elevation of the self-concept;
 - (e) *Control or authority*. An educational situation which has clear educational boundaries favours heightened *Self-respect*. Permissiveness leads to a lowering of self-respect (Coopersmith, 1967);
 - (f) *Success*. The teacher can create situations in which the conscientious student can be successful. The ultimate goal of learning activities is an adequate self, and "People learn that they are able, not from failure but from success".

12.9 CONCLUSION

In every child the will to know is coupled with a will to learn. Through learning about things and attributing significance to them, the child creates his own life space. The will to learn is a necessary precondition for learning. We are therefore dealing with learning as a deliberate act. A learning motive is the driving force behind an act of learning. The motives for learning rest upon a sub-structure of more basic drives which may be described as their anthropological basic forms.

These basic forms are drives that are largely unconscious. Various motives may be distinguished from differing perspectives. In conformity with the view that man is a physical-psychic-spiritual being, we may regard the concept of self-maintenance and self-enhancement as a primary motive for the act of learning as well as other human actions.

Various factors influence and determine the student's motivational state. Some are wholly intrinsic and others are extrinsic; but the latter are effective only when the student himself makes them intrinsic.

The child will want to learn if he sees learning as a possible means of realising his adequate self. The adequate self has to be constructed, and this can be done only in an inter-personal world in which the person can identify himself with attitudes, ideals and values.

Effective learning always means a gradual increase in the child's capabilities and powers, an improvement which manifests itself in development. Through significance attribution based on learning, it becomes possible for the child to realise the ideal represented by his perceived adequate self.

Types of learning

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CHAPTER 13

Types of learning

13.1 INTRODUCTION

As we have said, empirical educationists take cognisance of the fact that both learning and becoming are original problems which proceed interactively and interdependently. This implies that at each stage of the child's becoming he faces new demands and fresh emphases. New subject matter will often call for new learning methods. Learning occurs when the child is confronted with things outside his knowledge or ability that challenge him. If we see the developing child as someone who must grow to adulthood through learning, it is obvious that he needs to learn across the whole spectrum of his humanity. In the spheres of physical skills, emotions, attitudes, communication and especially cognition he must attain to a higher level of actualisation by means of learning. Clearly certain demands are made on the child who has to learn to write, control his anger, sit still in church, speak politely to adults, learn multiplication tables or solve problems. The diversity of the learning act makes it difficult to find a central theme around which it can be structured. We shall cite various classifications made in the literature. In empirical education we are concerned with the attribution of meaning, which is only possible through personal involvement. First we shall examine various attempts at structuring the types of learning and then we shall concentrate on meaning.

13.2 STRUCTURING TYPES OF LEARNING ACCORDING TO LEARNING ACTIONS

If a classification is based on learning actions one arrives at a loose cate-

gorisation with numerous parts, all apparently independent of the others.

- (a) Learning by reading
- (b) Learning by listening
- (c) Learning by doing
- (d) Learning by writing
- (e) Learning by repetition
- (f) Learning by meditation
- (g) Learning by reflection
- (h) Learning by imitation
- (i) Learning by practice
- (j) Learning by acquiring insight
- (k) Learning based entirely on teaching

13.3 CLASSIFICATION IN ACCORDANCE WITH THE OBJECTIVE OR PURPOSE OF LEARNING

Since the purposes for which people learn vary greatly, it would be possible to distinguish a great many learning processes. There are for instance forms of learning in which

- (a) the *skill or art* is the main objective, i.e. the automatising of motor (gymnastics, typing, pianoplaying, etc.) or mental skills (reading, writing, calculation, etc.)
- (b) the *solving of problems* is the main issue (thinking, understanding, gaining insight)
- (c) the main aim is *remembering* knowledge and *having it ready at hand*
- (d) *the main aim is the assimilation of working methods* (learning to learn, learning to work, learning to investigate, learning to look things up)
- (e) the main aim is *transference to other fields* (the studying of the *formal* subjects, such as Latin and Mathematics, for the sake of their *formative value*)
- (f) the main aim is the shaping of feelings, attitudes and dispositions
- (g) the main aim is the *inculcation of a deep interest in a particular subject* (specialisation)
- (h) a *change in behaviour* is the main objective
- (i) and so on. (You will by now have noticed though the list is long the end is not in sight.)

13.4 CLASSIFICATION IN ACCORDANCE WITH THE DEGREE OF AWARENESS WITH WHICH LEARNING TAKES PLACE

C.F. van Parreren has made the most important contribution with regard to learning awareness. He distinguishes between

- (a) *Intentional (conscious) learning*, i.e. a form of learning in which the subject is consciously, knowingly and willingly involved in the act or task of learning. In other words learning is an active and directed process with the learning task as its objective.
- (b) *Incidental or fortuitous (but nevertheless conscious) learning*, i.e. a type of learning in which there is no deliberate direction. Learning occurs by accident, in passing, and automatically. This kind of learning results, basically, from the appeal (valency) which the subject (or teacher) has for the child. Incidental learning via the appeal of the subject may give rise to deliberately directed learning. But according to Van Parreren the results of incidental learning (even if it does develop into intentional learning) never equal those of truly intentional learning.
- (c) *Unconscious learning* was experimentally proved by Thordike. It is learning that occurs without the learner being aware of the fact. There is no learning intention, so that one might rather speak of intuitive learning. Learning occurs through a challenge to the individual. For instance, the visual attractiveness of the subject matter may be enough to prompt the learner without requiring any cognitive activity. An example would be a television programme watched purely as recreation; at the same time the viewer *learns* the name of the river which flows through Paris but only realises this later on.

13.5 VAN PARREREN'S CATEGORISATION OF TYPES OF LEARNING

Van Parreren does not classify types of learning according to a preconceived principle, but simply identifies different types as manifested by pupils at school. Each variety is more or less independent. In each case he states the result of learning and then examines the action of type of learning that produces it. Each of these types of learning spurs the learner to some achievement that indicates that he knows what he has learnt or can do something he was unable to do before. The results listed by Van Parreren are insight, facts, accurate reproduction and automatism. He then examines the types of learning that produce these results.

13.5.1 Insight-promoting learning

At school and in everyday life we all find ourselves from time to time in situations in which we do not know which way to turn. Such situations are problematical, that is to say they raise questions for which one has no cut-and-dried answers. It is of course always possible in such a case to decide blindly on some course of action and simply "hope that it works". Fortunately however, human beings can avail themselves of more effective measures than that of simple trial-and-error in order to deal with such situations. *A human being is capable of reviewing all the components of the situation and then, by seeing how they are all connected (i.e., through insight) deciding on the most suitable way of tackling the problem.* But it is also true that all human beings are not equally good at seeing the connections between things. The Thought Psychologists ascribe these inequalities to differences in intelligence. Nevertheless one of them, Otto Selz, has demonstrated convincingly that children's intelligence levels can be raised (*Erziehbarkeit der Intelligenzleistungen*). He maintains that children can to a certain extent learn how to gain insight into problem situations by learning the "partial solution methods" used by someone else. This does not give the child a ready-made method of solving all problems but does provide him with a method of tackling them or of analysing any difficulties he may encounter.

If the teacher presents his material properly the pupils may benefit very greatly. Even if the child does not always arrive at the correct solution, he will always have a better chance of doing so than would the child who tries to solve problems by the trial-and-error process.

The quintessence of insight-promoting learning lies in the provision of (solution) methods which will enable the child to tackle a variety of new problems with a reasonable chance of solving them.

13.5.2 The acquisition of factual knowledge

This is another form of knowledge which is extremely important in the school context. The school does not exist solely for the purpose of training pupils to solve problems; part of its function is to turn out well-developed people. There are certain central facts which contribute to the development of the child and which every good citizen ought to know. Here we are thinking of the historical, geographical, scientific, linguistic, and other kinds of knowledge which are regarded as important in the cultural environment in which the child is growing up. These facts may help to promote insight of the kind discussed in the preceding paragraph, but that is not the primary reason for presenting them to the

child. They are regarded as worth knowing for their own sake. This type of learning is completely different *in character* from insight-promoting learning. One does not know of one's own accord or through reasoning that Jan van Riebeeck landed at Table Bay in 1652 and that this was the beginning of the White settlement of the Cape, or that General Louis Botha was the first premier of the Union of South Africa, or that General Andries Pretorius came from Graaff-Reinet. These are facts that must be communicated to one (verbally or in writing), and once they have been assimilated as incontrovertible facts one knows them and can remember them. There is no question here of mental relationships; one is dealing with concrete circumstances, people or events. We can of course arrange facts in such a way that their cohesion is explicable, for instance the facts that Van Riebeeck's statue is situated near the harbour in *Cape Town*. Similarly, we can explain why a statue of *General Louis Botha* has been placed outside the *Union Buildings* in Pretoria, or why the marble bust of General Andries Pretorius that stands outside Graaff-Reinet faces directly *North*, but at the same time looks towards "Letskraal", the farm that once belonged to Pretorius. Indeed genuine learning of this kind is characterised by the assimilation not only of facts but of the way in which the facts *cohere*. In this sense *insight* does form part of the learning; but the essential element in the acquisition of factual knowledge is the assimilation of unique and (in a certain sense) *fortuitous* data – fortuitous because, logically speaking, they could have been different.

13.5.3 Memorising

A third form of learning used in schools is memorising or "learning by heart". It might perhaps seem that this is no different from the remembering of facts that we have just been discussing. But there is actually an important difference between the acquisition of factual knowledge and *learning by heart*. When one has *memorised* something one is able to reproduce it (orally or in writing) word-for-word, in *precisely* the way in which it was originally *imprinted* on one's mind. Here the accent falls not on *knowing* about events, issues, people, etc., but on the *fixing* of particular expressions, sentences, maxims, formulae, or even single words, numbers or letters. The words or expressions may have some bearing on matters which the person has assimilated as factual knowledge, but this is not necessarily the case. It is important to remember that *the same material can form the content of various types of learning*. A pupil may memorise dates and at the same time assimilate them as facts connected in many significant ways with other facts.

13.5.4 The development of automatisms

When children learn to write, or to do gymnastics, they are engaging in yet another totally different form of learning: they are learning to execute various *physical movements*. One of the characteristics of this type of learning is that, once a person has gone through the process he no longer needs to think about the actions involved: the movements *come naturally*. In the Psychology of Learning movements of this kind are termed *automatisms*. Automatising is important because, once a person has mastered an automatism he can attend to something else while making the automatic movements. For example, once the movements required for writing have become automatic the child can pay attention to the content, style or correctness of what he is writing. Van Parreren emphasises automatisms with respect to motor action.

13.6 COETZEE'S CATEGORISATION OF TYPES OF LEARNING

Coetzee differentiates between two main types of learning. The first is a group of learning methods involving actions which result in particular physical skills. These actions increasingly demand the learner's attention.

The second category involves a mental act requiring a conscious image that is manipulated and internalised. Coetzee does not use a central theme to organise the various ways of learning but simply proceeds from conscious motor learning to conscious mental images or imaginative learning.

13.6.1 Motor, objective processes (mainly muscular reactions)

- (a) *Sensory-motor learning*, as in the acquisition of simple habits.
- (b) *Perceptual-motor learning*, as in the formation of social habits and the acquisition of complex skills.

In these types of learning, the objective is the acquisition of physical skills by developing control over the nervous and muscular systems.

13.6.2 Representational, subjective processes

These include:

- (a) *Perceptual learning*, as in observation and in activities which are partly skills.

- (b) *Associative learning*, as in the memorising of facts.
- (c) *Conceptual learning*, as in the assimilation of knowledge and the forming of concepts.
- (d) *Imaginative learning*, as in the production and development of original ideas.

What is unusual about Coetzee's classification is that it follows a line representing the increasing complexity of the various learning processes. Even animals can be conditioned, drilled and trained by means of motor learning processes to acquire certain patterns of behaviour; but they are incapable of using representational learning processes. These can be attained only by human beings. And among the various representational and subjective forms of learning, conceptual learning is a "higher" form than associative and perceptual learning. Imaginative learning is probably the highest form of all.

13.7 CATEGORISATION OF TYPES OF LEARNING ACCORDING TO MEANING

In this classification the *central theme is meaningfulness*. The types of learning are not new. In fact, the learning methods are merely rearranged each time. This classification is based on the fact that the *learner must be involved* in his learning task to understand it. The main categories of learning encountered in schools are motor and verbal learning. In both cases the success of the learning act depends on the meaningfulness of the learning task to the learner. This is equally true of the child who must learn a proper attitude or conduct, inasmuch as he has to understand the new attitude or behaviour.

13.7.1 Motor learning

Any study of learning, and particularly of the different ways or types of learning, must start from the basic fact that the learner is totally involved in any learning act. It is always a person who learns – never just an intellect or an emotional system or a physical organism. And the person learns that which he does not know or cannot do. For this reason it would be hard to justify any classification of types of learning according to the degree of difficulty involved. It is just as difficult for a baby of four months to learn to walk as it is for a gymnast to learn to walk on a tight rope. Learning is always difficult.

Learning, no matter what its type may be, means conquering, mastering, attributing significance.

Motor learning relates to physical actions which are executed by

means of well co-ordinated muscular movements. However this delimitation is somewhat problematical, for it seems that even *purely mental* activities are accompanied by some degree of muscular activity. Experiments have shown (Sawrey & Telford, 1968) that people move their tongue-muscles while solving mental problems. And we all know how tense our muscles become in moments of heightened emotion.

But although muscular movements are involved in all types of learning there is good reason for giving separate consideration to the learning or acquiring of physical skills such as walking, running, riding a bicycle, javelin-throwing, writing, typing, painting, playing the piano, and so on. These activities cover an extremely wide range, from those involving and requiring but little conscious effort to those which require a great deal of attention, conscious effort and concentration both before and during execution. Writing, typing and playing the piano are some of the activities that fall into the latter category. Successful learning manifests itself in habitual action or automatism.

Much repetition is required before one is able to write without thinking about the shapes of the letters or to play the piano without having to look for F or G on the keyboard. A wide range of factors is involved in these types of muscular co-ordination: awareness, psychological maturity, motivation, repetition, etc. Co-ordination of muscular movements cannot be achieved without a great deal of practice and constant repetition. However *Research quarterly* (Maltz, 1969, p. 32) mentions an interesting and well-controlled experiment in which the investigator, significantly improved the goal-shooting of a group of basket-ball players by getting them to think about the actions involved in goal-shooting during their daily practice period. Moreover there was no significant difference between the performance of this experimental group and that of a control group which had actually practised every day. It seems, therefore, that a high degree of *involvement* (which implies mental phenomena such as motivation, purposefulness, aspiration and perseverance) can accelerate the acquisition of motor skills by making them *meaningful*.

A great many textbooks offer detailed accounts of conditioning, which is ultimately a question of conditioned reflexes. J.C. Coetzee gives in addition a detailed account of motor learning under the headings "Sensori-motor" and "Perceptual-motor learning".

The brain processes and neurological factors involved in learning have hitherto been left out of account in studies of learning, particularly learning in the didactic situation. As Penfield (Kagan, 1969, p. 138) remarks, "... there is no thoroughfare of cause and effect between the brain and the mind of man, and there will be none until a new bridge is built."

As we have said, the ideal result of motor learning is the formation of

automatisms. But as in other forms of learning, meaningfulness, personal involvement and the gradual experiencing of success are the conditions for speedy achievement.

13.7.2 Meaningful verbal learning

13.7.2.1 *Insight and significance*

According to the field approach, learning may be described as, among other things, the attainment of insight. Insight is the sensation of or feeling for relationships or patterns in the person's life space. This perception of the pattern of cohesion or structure of the perceptual field means that relationships have been understood. "Insight into a matter is its meaning" (Bigge & Hunt, 1962, p. 341). Insight often begins as a vague inkling which later becomes more distinct. One is learning with insight when one perceives and solves a problem. The development of insight is regarded as a change in the cognitive structure of the life space.

In the learning situation the child apprehends relationships which he has not previously noticed. It would therefore be true to say that a new thought structure has come into being. "Het optreden van inzicht gaat meestal gepaard met een emotie: het kind krijgt een gevoel van macht, omdat het zich tot een aantal dingen in staat weet, waartoe het oorspronkelijk niet in staat was; het krijgt ook een gevoel van veiligheid, omdat het zich nu in staat weet voor een sekere tijd aan gestelde voorwaarden te voldoen – dat wij met een echt inzicht te maken hebben, herkennen we aan het adequaat handelen in nieuwe situaties, adequaat ten opzichte van de oplossing van het probleem, dat het kind zich blijkbaar gesteld heeft" (Van Hiele, pp. 102-3).

When the observable data relating to the problem have been structured (and thus perceived) the problem is solved through the attainment of insight. In this context therefore, insight refers to meaningful methods of problem-solving.

But the attainment of insight also refers to new abilities to the power of "adekwat handelen" (adequate action). "(The former interpretation) . . . refers to insight as a *process* of problem solving; however the term is also used frequently to describe the *product* of meaningful problem solving . . . characteristics which are both subjective and objective. In the first case we are dealing with a largely affective reaction, in the second case we are specifying what we can do with the insight once it is achieved." (Ausubel & Robinson, 1969, p. 510).

“Problem” should not be taken to refer to a high-grade algebraic or scientific problem which must specifically be solved by means of reflective thought or by research. In our present context a problem is any obstacle which a person knows to be preventing him from the attainment of an objective. Even very small children attain insight when they find out how to fit two blocks together or how to fasten buttons. Once they have done these things they know how to do them on subsequent occasions.

The dawning of insight thus imbues the situation with psychological significance. In the sections that follow we shall be discussing the various types of learning mainly as functions of learning-with-insight. By meaningful learning we mean those types of learning which result in understanding, i.e. learning-with-insight. If he has learnt successfully, the learner understands. He has thus gained insight, and the ability to do something which he has never done before, is within his reach. It follows then that the child who has a wealth of insights at his disposal is more capable of intelligent action than the child who has not. We may mention in passing that explanations, where necessary, may contribute to understanding. The ability to understand does not necessarily obviate the need for explanations.

13.7.2.2 Language and meaningful learning

A small boy can produce sounds but is not able to speak or to use language. Language is essentially a medium of communication. Human beings use linguistic symbols as a means of inter- as well as intra-communication.

The baby's babbling sounds and the way in which he plays on and with his speech organs provide the practice which is necessary for the production of those pure sounds without which articulation would be impossible. Linguistic development depends upon milieu as well as upon maturation. Language is learnt through imitation. The child can only learn the language that he hears, and the quality of his language similarly depends upon his linguistic environment. “Children from superior homes have superior language abilities when compared with children from laborers' homes.” (Munsinger, 1971, p. 328)

The study of the development of language is important because it shows us how the structure has developed from phonemes to morphemes and has in the course of time become an efficient grammatical and semantic medium of communication and expression. The purpose and function of language forms an equally important field of study. Re-

search (Carmichael, 1954, pp. 499-502) has shown that when small children first use language they communicate by means of emotional expressions, particularly expressions of comfort or discomfort. The sounds they use soon develop into linguistic expressions because their denotative meanings can be understood by other people. The child thus becomes actively involved in establishing and maintaining the emotional climate of the home in which he is cared for and petted by loving people.

The next level of communication is characterised by the use of meaningful words with the intention of expressing ideas. The child understands the words he uses and he attributes meanings to the things and situations he encounters. "The meanings of words are cues to action and heavily tinged with feelings . . . Language activity grows . . . with the cyclical pattern repeated: with acceptance, the child takes over the sounds of speech, then the understandings of the meanings of words, then the use of the words themselves." (Gordon, 1969, p. 82)

During the pre-school years the child learns to use language with a considerable degree of semantic and grammatical correctness. He relies most heavily upon nouns and verbs, but can also use adjectives, adverbs, conjunctions, prepositions, etc. to express his thoughts. In normal circumstances cognitive development takes place hand-in-hand with the development of a functional language. It is therefore impossible to describe the various types of learning without constant reference to language.

13.7.2.3 Representational learning

The model of learning we have adopted here is that of meaningful learning (Ausubel, 1968). This rests on two assumptions, namely: (1) That meaningfulness depends upon the quantity, clarity and organisation of the knowledge, facts, concepts, mutual representations, theories and perceptions that a person has at his disposal at a given moment. This organised existing knowledge is known as the cognitive structure, and it includes certain determinants (Gordon, 1966, p. 8) such as the self-concept, selfrespect, ideals, aspirations and cognitive style, which relate directly to the personality. (2) The second important assumption concerns the focus of the study material.

Every learning activity that follows a meaningful course rests on these two assumptions. (We must remember that this elucidation of learning is merely a paradigm or model or construct of the mind, which we build up to enable us to explain and investigate learning phenomena.)

At birth the child apparently possesses only potential abilities. These

are activated and implemented at an astonishing tempo so that by the time he is six years old the child has a phenomenal cognitive structure at his disposal. Some investigators maintain that the human capacity for learning is on the increase throughout the period between birth and adulthood. (Sawrey & Telford, 1968, p. 60)

By the time he goes to school the child knows the names of the things in his environment and has acquired a wealth of more comprehensive concepts as well. Types of learning cannot be placed in any hierarchical order, but it is possible to distinguish different ways of learning and of adding knowledge to the existing cognitive structure.

Representational learning may be briefly described as naming or nomination. Learning the significance of individual symbols is one of the child's most important intellectual tasks. At first these symbols are encountered in the form of words spoken by the parents with reference to specific objects to which the child's attention is being drawn. This is how the child learns the names *dadda*, *mamma*, *dog*, *cat*, *chair*, etc.: he hears the name whilst he is looking at the object.

Initially, the child apprehends the meanings of things in terms of what he can do with them or what they can do to him. In a great many cases these meanings are functional, to a limited extent, even before he knows the name of the object concerned. This is demonstrated by the way in which young children define objects, e.g. "a chair is for sitting on", "porridge is what I eat", and so on.

On the basis of this experience the child attains insight and comes to realise that any and every object can be represented by a symbol, in other words that everything can be named. The significance assigned to the symbol is functional and is represented by the image of or mental idea of the object concerned.

Once the child has arrived at this generalisation the naming of things is no longer an arbitrary process. The idea that "things have names" and that the name symbolises the object and summons up an image of it, functions within his exploration and ordering of his life space. The process of naming things is no longer wholly arbitrary because the name recalls the image of the object it represents. Recognising the cat as a cat as distinguished from the dog requires an act of memory as well as of differentiation and integration. Thus even in this limited context representational learning is meaningful.

Other parts of speech such as adjectives, prepositions and particularly verbs, are probably learnt in the same way. Direct observation of the cat sitting *on* the chair, coupled with imitation of the parent who describes the situation in words, places the preposition in a meaningful context which makes learning possible. Representational learning continues as type, from childhood through adulthood. The man who *learns* at the age

of forty that the "name" of the new aeroplane is "Concorde" does so, not as an arbitrary learning act, but in continuation of the already well-known principle of representational learning.

13.7.2.4 Conceptual learning

All concepts or ideas are the property of a brain. They originate there and are stored there. A concept is not an actual concrete entity found in nature. It is a construct created by a human brain in an attempt to give meaning to some portion of the person's life space. A concept cannot therefore be literally handed over by one person to another. A teacher can only transmit his own concepts by explaining them verbally. Even the most coherent explanation of some particular aspect of a subject is at best only potentially meaningful as far as the pupil is concerned. "Each person has to make his own concepts." (Woodruff, 1970, p. 239) There are absolutely no grounds for the belief that a pupil can internalise concepts meaningfully, but in a passive and mechanical way, once they have been effectively explained to him. If the learner wishes to understand a concept he must personally attribute significance to it. According to Woodruff (p. 238) the relationship between a concept and the verbal symbol used to handle it has three dimensions, namely that of significance or understanding, that of feeling, as value-preference and a language symbol with which it is manipulated. The component of significance or understanding relates to the denotative aspect of meaning, whereas the feeling component relates to the connotative meaning, which is personal in character. The connotative overtones associated with concepts such as a friend, flag, terrorist, apartheid, etc., will vary from one person to the next, and in some cases may actually overshadow denotative significance.

It is necessary to distinguish between the formation and the assimilation of concepts. Concepts are formed when one discovers inductively the distinguishing characteristics of the members of the group or category to which the concept refers. For example, in order to form the concept "dog" the child must have had the opportunity of seeing large dogs and small dogs, black, white and spotted dogs, Alsations, Boerboels, Collies and Dachshunds. He must have heard each one growl and bark, etc. These sensory experiences enable him to make his concept of "dog" more comprehensive and more adequate. Differentiation, integration and memorising – all of them specifically cognitive acts – are essential to this inductive process. While this denotative meaning is being formed the child may happen to be bitten by a dog and he may be afraid of all dogs in consequence. Or he may regularly have a good time play-

ing with his own dog and consequently develop a fondness for all dogs. This is how connotative significance develops. The main point is that conceptual learning and concept formation originate in direct personal perception of something concrete. "When a person is having his first significant experience with any fact or truth, it should not be a second-hand experience such as a lecture, or any form of verbal teaching. It should be a direct 'seeing' of the actual referent itself. There is no possible substitute for the mental images we acquire through our senses" (Woodruff, 1970, p. 243).

After the early years of childhood concepts are acquired mainly through the process of assimilation. The distinguishing characteristics of the concept, or of the members of the group represented by the concept, are not arrived at inductively through the differentiation and integration of sensory data. The new concept is assimilated because its distinguishing characteristics have been *explained* and have been related to the distinguishing characteristics of relevant aspects of the existing cognitive structure.

Conceptual learning through assimilation may be briefly described as follows: The new concept is explained by the teacher. In the course of this explanation the distinguishing characteristics are effectively singled out and "purified" of fortuitous features. The relevant elements in the cognitive structure – elements with which the new concept can be linked – are called "anchoring ideas". The new concept is now related, via its distinguishing characteristics, with the anchoring ideas already present in the cognitive structure. When meaningful study material is assimilated, subsidiary ideas are subsumed under comprehensive ones. Details of new concepts may be forgotten, but their significance will nevertheless have permanently enlarged the significance of the main ideas within the cognitive structure.

Concepts increase their range, density and complexity, and the acquisition of these more complicated types would best be discussed under the heading of propositional learning.

13.7.2.5 Propositional learning

(a) IMAGE FORMATION

Image formation can be regarded as a distinct facet of propositional learning and may be listed as a separate category.

One of the ways in which children learn is to construct a visual image of the facts that have to be understood or remembered. An infant soon learns to recognise his mother's face. Long before he

learns to read he is able to recognise and reproduce the names of cars, fruit, breakfast cereals, etc. It is difficult to account for this phenomenon except as the formation of a visual image which constitutes (to the child) a faithful replica of the particular object. Bruner (1973, p. 327) believes that enactive representation precedes the representation of visual images. It may be that a baby recognises his mother from the way she handles him before he learns to recognise her face.

The representation of objects through visual images which are internalised so that they can be memorised, recalled and used to recall similar objects, is a process that commences in early childhood and continues as an autonomous type of learning: "... all of them (enactive, iconic and language representations) remaining more or less intact and throughout life" (Bruner 1973, p. 327).

Coetzee refers to this type of learning viz. the formation of images as a way of acquiring knowledge about people, things and events that are inaccessible to direct observation and association. Accordingly he maintains that this is the ultimate form of learning in that it presupposes all the other types. However, from what we have said above it is clear that the child is capable of forming images before his linguistic powers and his reading and writing of language become functional. Bruner's conclusions from his empirical research are convincing, viz. that enactive representation is followed by the formation of images, which in turn is followed by symbolic or linguistic representation, while each type of representation continues to exist independently.

When a school child forms a visual representation by means of a visual image of a historical event or geographical phenomenon, this is merely a continuation of this autonomous type of learning, viz. image formation, which is established as a type of learning in the preschool phase.

The importance of image formation is stressed *inter alia* by neurologists and neurosurgeons such as Pribram (1969, p. 200), who writes: 'My plea is, therefore, that we not lose sight of the picturesque (image-making) for the brain is built to work with pictures.' He therefore recommends: '... instructors must help decode and recode the flux of material as it is registered.'

Language does not replace images but rather enables the learner to form more complete and detailed visual images. In fact, readers constantly visualise verbal descriptions as images.

Visual images are essential for the attribution of meaning to:

- a mother's comforting voice to her crying baby;
- the landing of Jan van Riebeeck; or

– rainfall distribution or the formation of horseshoe lakes.

This mode of representation is indispensable to architects and painters no less than to creative scientists. Kekule's 'seeing' of the circular molecular structure or organic bonds is a cliché, as is Faraday's visual representation of magnetic fields. Einstein (Roberts 1975, p. 404) said: 'The words or the language as they are written or spoken, do not seem to play any role in my mechanism of thought. The physical entities which seem to serve as elements in thought are certain signs and more or less clear images. . .'

The didactic implications for the learning event are of cardinal importance. The teacher must help the pupil to form visual images by the presentation of subject matter in the form of maps, drawings, models, etc. wherever relevant. He must also assist pupils in decoding and coding verbal subject matter so as to form structures that pupils can visualise, even when the form is fairly abstract. This is what happens in the representation of meanings that are assimilated in the cognitive structure. Thus representational learning involves not only the formation of images, but also the representation of comprehensive concepts during conceptualisation and assimilation of concepts.

(b) VERBAL COMPOSITE IDEAS

In conceptual learning the emphasis falls upon concept formation; but there is a certain similarity between propositional learning and the forming of concepts after verbal explanation. In the preceding section we were discovering individual concepts. *In propositional learning, however, the objective is to understand the meaning of a composite idea of the kind we express in sentences.* Though the sentence is made up of meaningful words, the composite idea it expresses is more than the sum total of the words. Understanding depends upon the reconstruction of individual meanings.

Syntactical rules fulfil the mediatory function of relating verbally-expressed ideas to one another, thus facilitating understanding of the new ideas. Learning a complete syntactical code is an extremely complex process; yet the child has mastered such a code some two years before he goes to school. The concepts expressing relationships such as out, in, on, under, etc. are apparently learnt inductively.

When propositional learning is proceeding in a meaningful way

the sentence that is being learnt is related to the ideas already present in the cognitive structure. The relationships thus established may be classified as follows:

(i) *Subordinate relationships*

The new concept is included in or under a more comprehensive concept which is already present in the cognitive structure. If for example the child already knows that dicotyledonous plants have tap roots he can understand with little cognitive effort that Jacarandas have tap roots: this is merely particularising. However the new concept may extend or qualify the more comprehensive concept with which it is connected. For instance if one knows that the opposite sides of a parallelogram are both parallel and equal, this knowledge is extended by the information that the opposite sides of a rhombus are parallel and that all its sides are equal.

(ii) *Superordinate relationships*

The new content gives the established knowledge a more comprehensive or a more encompassing character. For instance if the child already knows that the sum of the interior angles of a rectangle, a square or a parallelogram is always 360° , the new proposition, "the sum of the interior angles of any quadrilateral is equal to 360° " will be more comprehensive. The quadrilateral may be studied as a special case, but the information may also be acquired inductively.

(iii) *Combinational relationships*

In this type of learning there can be no inclusion under preexisting comprehensive ideas. This applies to the teaching of new study material, particularly when the whole subject is new. The new knowledge is presented against a background of vague general relevance. Material of this kind is difficult to learn. We know from experience that it often takes a student a long time to orient himself towards a new subject so that he can begin to learn successfully. It takes time to form new concepts. But even if immediate assimilation is not possible, and even if the subject is totally new, concept formation does not take place in a vacuum. The ideas may be strange, but the sentence will be semantically comprehensible all the same. Concrete representation, where possible, will greatly facilitate the establishment of connective relationships. Good organisation (Bruner) is also very important. The formation of clear and meaningful images or mental representations will soon obviate the need for mechanical memorising.

13.7.2.6 *Learning by discovery*

This is the type of learning that is required when the study material or learning task is not presented in a final explanatory form. It therefore differs in this respect from explanatory teaching and receptive learning. Before the learner can assimilate he must re-arrange, reorganise or re-structure, and to do this analysis and synthesis may be required.

Learning by discovery obviously intersects all forms of learning. It is clearly present in the process of concept formation and in the inductive acquisition of comprehensive concepts in the course of assimilation. It is present as a distinct type of learning in problem-solving and creativity.

13.7.2.7 *Problem-solving*

There have been many definitions of problem-solving some differing so widely as to be mutually exclusive. At every stage in his development, even in the very early phases, the child is confronted with *problems*, i.e. he encounters difficulties or obstacles within his life space, and must find ways of overcoming them. But if we accept as our criterion that "It (a problem) involves going beyond the information given," (Ausubel, 1968, p. 535) then all difficulties do not qualify as problems.

In the school situation, problem-solving occurs when the child is confronted "with a problem that is genuine to him in terms of his needs and experiences A real problem is more than an idea to be manipulated" (Mouly, 1970, p. 383). If the pupil is not directly aware of the problem and is not personally involved in it, then it is not a problem for him. It simply remains the teacher's or other person's problem, and leaves the child *stone cold*. In order to solve a problem that occurs to him, in Dewey's words, "as a felt need", the person must assemble the required information, organise and re-arrange it until insight is achieved and the solution is seen as a "means end relationship" (Ausubel, 1968, p. 534).

13.7.2.8 *Creativity*

Creativity is directly related to problem-solving. In problem-solving, as discussed above, thinking is mainly convergent. In geometry for instance one might be asked to prove that two lines are equal in length, or to find the value of a certain symbol. Only one correct answer is possible. Where creativity is required, in contrast, there is usually no pre-determined correct answer. What is required is a combination of realistic

thought and imagination. It is a kind of problem-solving, but without any set answer. Self-expression often predominates. And it is important that the answer should be useful. People who do creative work – writers, painters, scientists, or those who are creative in particular fields – follow rules that are relevant in their own particular fields.

Schools should encourage children to express themselves in ways that are new to them and to try methods that deviate from the tried-and-trusted, so that their originality can find expression in unusual answers – which may be astonishingly useful. Creative thought is completely divergent.

The meaningful verbal learning which we have been emphasising throughout this book fits in with a functional cognitive structure. Creativity is not a game in which fantasy is allowed free rein. Even if ideas are organised in strange new ways or complicated conceptual schemes are devised, the starting point for creative thought, and the medium in which it occurs, is always a functional cognitive structure.

13.8 CONCLUSION

However variously it may be defined, learning is always a meaningful act and always involves significance attribution. Intentional learning, which occurs in the pedagogic situation – particularly the pedagogic-didactic situation – takes place with the guidance of teaching/instruction provided by a parent/teacher. Since significance attribution is a natural activity of children, intentional learning is of the first importance, whether it occurs in a formal didactic situation or in an unstructured friendly or conversational situation.

All the different types of learning are constantly involved when a person learns in response to explanatory and heuristic instruction given by a teacher-educator.

We emphasise meaningful verbal learning because most learning activities proceed with the aid of spoken or written language. Language is extremely important because we name concepts by means of linguistic symbols, and this promotes the attainment of insight, which must occur in all forms of meaningful learning.

In this chapter we have emphasised learning activities as such. However it is also important that children should be taught how to learn. The question “How do pupils approach learning problems?” is highly significant. Every child has his own way of creating relationships within his own life world. This way of knowing things or approach to knowledge is called cognitive style. Kagan, Moss and Sigel (Gordon, 1966, p. 51) of the Fels Research Centre have been responsible for most of the re-

search that has so far been carried out in connection with *cognitive style*. They distinguish between an analytical and a non-analytical cognitive style. Many learners display a learning style (which is of course related to cognitive style) which consists in structuring the content to be learned; others again tend to begin memorising immediately. It is also possible to distinguish a cognitive style consisting in learning-with-insight, as against one which relies upon trial and error. Successful learning cannot summarily be coupled with any particular cognitive style, but some approaches are certainly more economical than others as far as the time required for significant learning is concerned. The cognitive style or approach plays an important part in successful learning.

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CHAPTER 14

Successful learning

14.1 INTRODUCTION

Children have an inherent inclination to impose order on their world, which is initially chaotic. They do this by assigning significance to their sensory perceptions of things in the world around them: they name things, differentiate between them and integrate their findings. All learning begins with direct personal perception of the people and things in the external world. A child's first experience of new facts or truths should therefore take place at first hand. Such direct *seeing* makes it possible for the learner to form correct images. In addition to their inherent or denotative significance, things have a connotative significance which is assigned to them by the learner on the basis of his own experience and expectations. When the baby cried yesterday he was, as usual, picked up and petted by his mother. Now he is quiet when he hears her footsteps, because he expects to be picked up again. He has thus attributed significance to the footsteps he hears.

In schools one often finds that teachers concentrate on imparting facts instead of trying to ensure that the pupils understand the facts. The accumulation of unassimilated facts which have been mechanically memorised confuses the child, and certainly does not pre-emphasise isolated facts without placing them in the context from which they derive their meaning. The children learn strings of facts, often without even understanding them. The advantage of doing this is that correct verbal reproduction gains more marks in tests and examinations than would a badly-worded expression of the child's own concept.

Of course facts must be taught, for without them reasoning, the assimilation of additional concepts, and abstraction would be impossible. But empty verbalisms are no substitute for the understanding of facts and concepts. Meanings cannot simply be transferred from one person

to another. A concept is a mental construct which is formed to enable the person to understand a situation, and each person must form his own concepts. Even adults cannot grasp the full meaning of a concept immediately. At every stage of development, linguistic knowledge at the required level is the pre-condition for the understanding and handling of concepts, for language is the vehicle for both percepts and concepts.

The specific task of the learner is to understand the content of the subjects he is taught with a view to mastering it. His initial mastery becomes permanent when the content is assimilated into the cognitive structure: the pupil then knows the subject.

The learner himself must understand the facts and concepts that he learns. We shall now consider the conditions and circumstances required for the initial successful understanding of facts and concepts.

14.2 COGNITIVE FACTORS AND SUCCESSFUL LEARNING

14.2.1 Aptitude, learning speed, and success in learning

Individuals differ as regards their aptitude for learning different subjects. In the past, various aptitude tests seemed to predict achievement very reliably. Carroll opposes this belief when he asserts "that aptitude is the amount of time required by the learner to attain mastery of a learning task" (J.H. Block 1971, p. 50). This statement implies that all pupils can understand every learning task if they are allowed sufficient time. If Carroll is right, then every pupil could master every learning task if suitable methods of teaching and learning were applied, and if sufficient time were allowed. Research, such as that carried out by Glaser and Atkinson seems to support this contention: they found that most of the pupils in their test groups were able to meet the achievement criterion, but that some did so more rapidly than others.

The aptitude distribution may be such that approximately 5% of learners show very little aptitude for a particular subject. The remaining 95% can all understand and master the subject if they are given enough time and suitable assistance. To assist them to master the study material, learning strategies which will reduce the time required for understanding the learning tasks involved must be developed.

Bloom (1964) and Hunt (1961) both found that aptitude for a subject, as determined by the available methods, was not completely stable. Improvements resulted from improved environmental factors and successful learning experiences.

Further research on aptitude is needed, but the indications are that a lack of aptitude is not a significantly disturbing factor as far as most learners are concerned, provided that suitable methods of instruction and study are used, and that the learner is given sufficient time to master the subject.

14.2.2 Ability to understand instruction

Successful learning depends upon the degree to which the learner understands the nature, content, methods and procedures of the subject concerned. As far as ordinary teaching is concerned, we are assuming that the pupil is not subject to any physical disability which would hamper learning. In the didactic situation one of the conditions for understanding is that teacher and pupils should be able to communicate. The teacher must have a message to impart to his pupils. And the level of knowledge of the class as a group must be such that they are able to understand the new information. Secondly, the linguistic knowledge of the class must be such that the words used by the teacher do not raise problems. The pupils must have acquired the necessary automatisms, both on the general academic level and with regard to specialised technical language, to enable them to keep pace with what is going on in the class. There may be a tremendous number of individual differences with regard to defects in the cognitive structure and in linguistic ability. Some pupils, consequently, will not be able to understand the material being taught. Nevertheless the majority of the class will understand and will make satisfactory progress.

14.2.3 Attention and advertency

Attention or advertency cannot in itself be described as a cognitive phenomenon, because it involves the direction of the total person towards something. The giving of attention is a conscious voluntary act resulting from a voluntary decision. Perception, and indeed all cognitive acts, have their origin in attention. *Attention not only initiates cognitive acts but also keeps them going until they have run their course.* One does not pay attention to everything that happens to be within one's field of vision. Attention is therefore directed and relatively limited, but not in a constant manner for it can be directed to one object or divided among several. In this connection we may distinguish between

- (a) fixed or concentrated attention and
- (b) fluctuating or distributive attention.

The attention not only includes only a limited number of objects: it also excludes certain objects or characteristics or facts. For example, if I am looking for a certain name or fact on a certain page of a book, my attention excludes everything and I see only the word I am seeking.

The conditions for concentrating the attention may be divided into

- external or objective conditions;
- inward or subjective conditions.

14.2.3.1 External conditions

- (a) Unusual, striking, unexpected stimuli such as a bright light, a sharp blow, movement, etc., compels attention.
- (b) The valency the object has for the observer affects attention. The compelling power of the thing being observed is closely connected with the connotative significance of the object for the person concerned.

14.2.3.2 Inward conditions

Interest in the object, together with aptitude for the task and practice in concentration make it possible for a person to fix his attention on a particular matter. Some people can concentrate even in very noisy surroundings, others are easily distracted.

Poor health can affect concentration, particularly when it must be sustained for long periods. The mental state of the learner is also significant: absent-mindedness resulting from domestic tension or anxiety, fear of a teacher or of the criticism or teasing of contemporaries may hinder concentration. Spasmodic attempts at protecting his own self-image may also disturb a learner's concentration on the subject in hand. The most important point about attention is that the more intensely it is concentrated on an object the clearer the person's image of that object will be. Intentional learning is not possible at all without concentrated attention.

14.2.4 Perseverance

It takes time to master any learning task. Perseverance can therefore be measured in terms of the time that an individual pupil is prepared to spend on a specific task. If the learner is not prepared to spend the minimum amount of time required for the mastering of the task, he will not

fully understand it. Generally speaking, a pupil's perseverance indicates his attitude to learning, to particular subjects, and to school life as a whole. Perseverance, regarded as the time that a pupil voluntarily decides to devote to various subjects, differs from one subject to another. It seems to be closely connected with interest and with the amount of success experienced in the subject concerned. If a person's previous efforts with regard to a particular subject have been successful, it is highly probable that he will be prepared to spend more time on that subject. Conversely, a teacher who is over-enthusiastic in his use of the red pencil may discourage perseverance.

People's frustration thresholds differ, but if a learning task is too difficult or too time-consuming, efforts at learning will eventually decline, even if perseverance is normally one of the person's character traits. Some measure of perseverance is required for the understanding of all learning tasks.

14.2.5 Learning time and successful learning

As we have said, every learner requires a certain minimum amount of time in which to understand every learning task. Schools must adhere to timetables if they are to function at all. A certain amount of time must be allocated to each subject and to each lesson. Some children will find the allocated time too short for some subjects, while to others it will seem unnecessarily long. In the school situation therefore, it is typical and to be expected that some children will not understand everything they are taught about some subjects. Teachers will be more successful, other things being equal, if they make provision for each child to work at his own tempo until he has achieved understanding.

14.2.6 Cognitive style

The child is continually in contact with the unknown: things, people, ways of behaving, ideas or concepts. In order to construct his own life world he must imbue all these things with meaning. The unknown is always problematical. In order to form relationships one must understand, and this requires differentiation, integration, comparison, and so on. Retention, and hence deliberate memorising, plays an important part in every problem and in every explication of the unknown.

By cognitive style we mean the way in which a person approaches problems or sets about tackling new study material. Here we distinguish between (a) the person who approaches the task via understanding and

(b) the one who aims at correct reproduction after memorising material in a mechanical way. As far as understanding is concerned, we may distinguish between an analytical approach and a non-analytical or total approach. A rigid cognitive style or a stereotyped approach may make it difficult for the person to understand a learning task. A flexible and thus adaptable cognitive style promotes rapid understanding; but it seems that cognitive style is strongly influenced by personality.

14.2.7 Insight

Köhler, (1929, p. 373) with whom the concept of insight originated, defines it as “Our experience of definite determination in a context, an event or development of the total field” (Gestalt Psychology N.T. 1929, p. 373). Insight thus consists in becoming aware of the relationships between data, in such a way that a pattern emerges. Insight occurs in respect of a problem situation. The person sees the relationships between the data in a way that points to the solution to the problem. A teacher can never “pass on” his own insight into a problem situation or into the solution to a particular problem. The insight must be achieved by the learner himself. Insight is almost synonymous with understanding; it involves much more than the memorising of isolated facts, for it places the facts in a coherent order and in a clear pattern with regard both to the existing cognitive structure and to one another.

If he is to understand, the learner must spend enough time on the learning task to allow insight to dawn. Understanding thus depends upon the attainment of insight into those relationships that are relevant to one’s purpose.

14.3 THE CONNECTION BETWEEN AFFECTIVE FACTORS AND SUCCESSFUL LEARNING OR MASTERY

Affective factors cannot be divorced from cognitive factors; nor can they be isolated from other personality characteristics. The distinctions we are about to draw are intended to determine the degree to which these phenomena influence the understanding of study material.

14.3.1 Interest

By interest we mean the learner’s personal involvement in a particular subject or learning task. It presupposes that the person is already partly

familiar with the material and has therefore established some kind of relationship with it. The nature of the relationship depends upon the importance of the material to him. *The Shorter Oxford English Dictionary* (1965) defines interest as "The feeling of one who is concerned or who has a personal concern in anything". This implies that it is impossible to be interested in a totally unknown object, theme or concept.

If a pupil is generally interested in what he does at school, he will be prepared to take an interest in subjects or material about which he as yet knows nothing. However this willingness to be interested will not last indefinitely; it will dwindle if it is not realised to a reasonable degree within a fairly short time.

If a student's first essay receives a high mark and favourable comments, he will tackle his second one with more enthusiasm and confidence than would otherwise have been the case. If his efforts repeatedly meet with the opposite response it will be difficult for him to maintain his interest in the subject. With an increasing number of experiences with learning tasks which the learner sees as identical, his interest will gradually stabilise, and subsequent tasks of a similar kind will be tackled with great interest, no interest or a degree of interest somewhere between the two.

We must remember that the degree of success will differ from one learner to another, but that the experience of success will always be an important factor with regard to the arousing and consolidation of interest. Success does not necessarily mean maximum achievement; the individual pupil will decide for himself more-or-less what his position is in relation to the distribution of marks for each subject. Experienced high-school teachers have found that when pupils have to choose subjects they are often influenced by the degree of success they have attained in the past in the subject concerned. In the absence of such experience they tend to choose subjects in which they think they have a good chance of succeeding. They choose what seem to them to be the *easiest* subjects.

14.3.2 Attitudes

In the present context an attitude may be described as a general tendency or state of preparedness to behave in a particular way with regard to the school. The pupil's attitude, whether it be favourable or unfavourable,

able, stems mainly from his generalisation of his own experiences with regard to the school. An attitude is thus a much more generalised thing than interest, which relates exclusively to experiences regarding a particular subject. Once again, individual differences are an important factor. The number of successes or failures required to create a positive or negative attitude to the school will differ tremendously from one pupil to the next, but the difference is really only one of degree. Every individual will, after a sufficient number of experiences of success or failure, develop a correspondingly positive or negative attitude towards the school. A great deal of research has been done concerning the relationship between the pupil's achievement and his attitude towards the school (Block 1971, p. 20). The findings indicate that a well-defined attitude towards the school has already been developed by the end of the primary-school period, or to put it another way, that if a pupil has a strong attitude towards the school it will have been formed, in the main, by the time he leaves primary school.

Repeated experiences of incapacity are painful, and will tend to create a negative attitude towards the school: the pupil's efforts are likely to be directed towards withdrawal or even rationalisation, for he must find some way of defending and maintaining himself. This negative attitude will affect all his subsequent efforts in connection with learning and school affairs generally. The pupil's ability to complete a learning task successfully therefore depends, among other things, upon his attitude towards the school

14.3.3 Self-concept

The role played by the self-concept in learning activities constitute an extremely important problem which we shall not be able to discuss fully here. We shall merely refer to the following definition of the self-concept (Purkey, 1970, p. 7). "The self-concept is a complex and dynamic system of beliefs which an individual holds true about himself, each belief with a corresponding value." According to this definition the concept of the self is both organised and dynamic. The individual is the centre of his own experiences and of his own personal world. Everything he observes, understands and interprets is seen from this personal anchorage or reference point, and human or personal motivation is a product of the individual's endeavour to maintain and develop himself. The concept of the self is based on the person's experiences in the inter-personal world. These experiences are extremely varied, and the self-concept consequently has many facets. The learner's concept or idea of himself as a learner is important. His previous learning experiences may be such that

he sees himself as a successful learner. Or he may see himself as a successful learner in history but hopelessly incompetent at mathematics. The individual is constantly engaged in judging himself on the basis of his experiences. A few, or even a good many successful or unsuccessful experiences will not in themselves have any significant effect upon the self-concept. What is important is the way the person feels about his successful or unsuccessful experiences. Their intensity and duration must necessarily cause him to feel not only that his efforts with regard to the particular subject have failed but that *he* is a failure in that subject. Conversely, the self-assurance that accompanies successful experiences would cause him to feel competent in the subject concerned, with the result that he would tackle even the difficult problems in that field with a good deal of confidence.

Empirical research has not provided many data relating to the self-concept, for this is a difficult construct and suitable experimental methods are hard to devise. Findings such as those produced by Torshen indicate that the correlation between the academic self-concept and school achievement is approximately +0.150 which is not significant. The available experimental data also suggest that the academic self-concept has been fairly clearly formed by the end of the primary school period. The self-concept thus formed therefore depends upon the quality of school experience in the primary-school years. The precise manner in which and the conditions under which the academic self-concept is formed are of little importance at the moment. The point is that the academic self-concept may be high or low, and that a low academic self-concept increases the likelihood that the person concerned will form a negative general self-concept.

Successful experiences at school do not guarantee the formation of a positive general self-concept, but they do increase the likelihood. Conversely, unsuccessful school experiences are almost certain to result in the formation of a negative academic self-concept, and this increases the likelihood that the person will form a negative general self-concept. The individual is constantly engaged in self-maintenance and self-enhancement: he therefore tries with all his might to achieve some degree of certainty with regard to his own value (self-value), and if this is denied him in one area he will seek it in another.

Since the school is such a dominant factor in the lives of young people, it is extremely difficult for a person who has been progressively developing a negative self-concept to find an honourable way of satisfying his need for self-assurance elsewhere. We must remember that where interest and attitude are concerned the source of experience is situated outside the self, whereas when the self-concept is being formed the source of experience is inward: it is the actual self. The effect of the

academic self-concept – a concept which is largely undifferentiated – is that a person with a negative self-concept with regard to a particular subject does not say to himself “I cannot do this task” but “I am bad at arithmetic, regardless of the difficulty or otherwise of the problems placed before me”. Thus whenever he tackles the subject he does so with the conviction that he is a failure as far as that subject is concerned. Once a negative self-concept has been formed, even successful efforts with regard to the subject concerned may possibly not be experienced as successes. Success is sometimes rationalised out of existence, e.g. the person says “that problem must have been very easy”, or “it was a sheer fluke that I got it right”. The quality of the person’s total academic self-concept is of decisive importance as regards his approach to individual subjects and is thus the pre-condition for the experience of success.

14.3.4 Mental health

By mental health we mean a person’s ability to endure tensionfilled situations. It is the opposite of personality problems, personality disintegration and mental illness. In the classroom the first signs of defective mental health may appear in the form of hostility, aggressiveness, anxiety, fear, vandalism, withdrawal, and a variety of other symptoms. Mental health is indicated by an ability to overcome tense situations without suffering serious personal disintegration. A pupil may be so afraid of a teacher that he works only spasmodically and experiences so much tension that his powers of understanding and his ability to solve problems and to study successfully are completely disrupted. Excessive anxiety and tension produce emotional disturbances which retard successful learning. A constant inability – real or imagined – to cope with everyday situations such as those encountered at school leads to anxiety and frustration and paves the way for mental illness. Conversely, a person’s ego-strength – his belief that he has the ability to do things – is the quality that safeguards him against mental illness.

School experiences can thus contribute to mental health or mental illness. On the other hand, the pupil’s mental health is a pre-condition for a successful approach to the problems encountered in a particular subject, while insecure relationships with teachers and fellow-pupils often result in frustrations and experiences of anxiety. The pupil who is perpetually fearful and anxious must develop defence mechanisms in order to preserve himself. The successful pupil, on the other hand, can relax and forget himself and can therefore devote all his powers to the tackling and solving of problems.

It seems, then, that mental health is very closely related to the pupil’s

self-concept. Thorough exploration of the study material, so that the pupil can understand it and can thus experience success, is still indispensable. Praise and encouragement are among the most important of the motivational factors because they promote the pupil's ego-development.

14.4 TEACHING FACTORS AND SUCCESSFUL LEARNING

14.4.1 The teacher-pupil relationship

In the didactic situation the teacher is constantly engaged in assisting and supporting the pupil, offering explanations, and so on, while the pupil receives the proffered assistance. This immediately suggests that an authoritative relationship is indispensable in the didactic situation. Here however, we are particularly interested in the inter-personal events that take place in the classroom, and in the effect these have upon the success with which the pupil is able to learn. Initially, the authoritative relationship is transferred from the home to the school. With small children one strives for harmony, for they are emotionally involved in their experiences and therefore have a deep need for security. In the course of time the relationship becomes more matter-of-fact.

If we distinguish carefully between an authoritarian and a democratic classroom relationship, it is clear that the latter results in higher achievements than does the former. We should also mention the possibility of a permissive attitude on the part of the teacher: this results in the pupil's doing more-or-less what they like when they like. Coopersmith's (1967) investigation is highly significant in this regard. He found that the self-concepts and achievements of pupils who were developing in a permissive atmosphere were significantly lower than those of children growing up under definite forms of control with clearly marked educational boundaries. The child is engaged in exploring and getting to know the world and in orienting himself within it, and he requires educational assistance if he is to do these things successfully.

The psychological atmosphere in the classroom ultimately determines the mental welfare of the pupils as well as their ability to achieve. This psychological atmosphere is difficult to define. It is revealed by the emotional intellectual temperature of the classroom – in whether or not the pupils are cheerful, lively and outspoken. It is also revealed by the ways in which tensions arise and are resolved. In a warm classroom atmosphere one senses inspiration, comprehension, the acknowledgement of

personal worth, encouragement, comprehensibility: learning proceeds in a relaxed manner and with contributions from the pupils. Confidence is another important factor to be considered when one is assessing psychological atmosphere. There must be mutual confidence. The teacher must trust the pupils and the pupils must trust the teacher. If the psychological atmosphere is relaxed and imbued with mutual trust there is room for a genuine meeting between teacher and pupil; the teacher will be able to communicate his message to the pupils and they will be able to receive and interpret it without strain.

14.4.2 Extrinsic motivation by the teacher

All successful intentional learning is founded upon the will to learn; this will must therefore be aroused if one is to teach successfully. Klausmeier and Goodwin (1966, p. 447) draw attention to the following ways in which teaching can be mobilised to intensify the pupil's motivation.

- (a) Focus attention on aims that are important to the learner.
- (b) Encourage the development of positive aims.
- (c) Set realistic objectives.
- (d) Create a warm but orderly atmosphere.
- (e) Provide incentives.
- (f) Avoid serious tensions and disorganization.
- (g) Link the unknown with the existing cognitive structure.

Methodical punishment, reward, competition, co-operation, etc. always promote the will to learn. Mursell (1954, p. 53) says: "It is to organize learning in such a way as to get a grip on the motives and impulses of the learner which implies also that it becomes richly meaningful to him." To learn successfully the pupil must want to learn. By awakening interest, formulating objectives which the pupils can actually reach, and explaining the study material in such a way that the pupil can understand it, the teacher can do much to activate the pupil. The will to learn is a condition for successful learning, and it can be intensified by extrinsic motivation emanating from the teacher – particularly with regard to the experiencing of success.

14.4.3 The quality of the teaching

In the didactic situation, successful learning depends upon high-quality teaching, for all teaching means "hulp by het leren". In the past, the quality of teaching was judged largely by the answers the class as a group was able to give. Without going into a detailed discussion of the

didactic implications of high-quality teaching, it must be mentioned that the teacher should present the study material in such a way that it is meaningful to the pupil.

Nowadays we look to the individual pupil when we want to know whether or not teaching has been successful, for it is the individual who must learn successfully and thus derive the optimum benefit from the teaching he is given. The quality of teaching can therefore be improved if we take account of the individual pupils with regard to successful learning.

14.4.4 Development and readiness for learning

Piaget and Bruner distinguish corresponding stages in the cognitive development of children. In keeping with these stages, study material can be presented at varying levels of advancement. Bruner says that: "any subject can be taught effectively in some intellectually honest form to any child at any stage of development." This statement requires qualification, but what it boils down to is that the study material must be structured in such a way that it accords with every level of cognitive functioning (enactive, iconic and symbolic). This insight has inaugurated a new era with regard to readiness, applying to both the learner's particular level of development and the ordering of the study material. Bruner says that the concept of readiness should be revised in such a way as to include both the child and the study material. The study material must in fact be so ordered as to accord with the different stages of cognitive development, namely the level of concrete action, the level of image formation or representational learning, and the symbolic or abstract level. So far there has been little experimental confirmation, but there are indications that, up to a point, both the pupil and the study material can be brought to a state of readiness. The actual course of the child's development seems to provide the best indication of what could be meaningful to the child. Though problems do exist, empirical research seems to indicate that both the learner and the study material can be made ready with regard to a particular learning task. Once again the emphasis falls on the individual pupil, for it is he and only he who may be ready for a learning task, and the assimilation of new study material can take place only within the cognitive structure of a unique and singular individual. Nevertheless, individuals have enough characteristics in common to make class instruction a practical possibility.

One of the teacher's tasks, therefore, is to adjust the study material to the pupil (or class of pupils) after having made him/them ready for a learning task.

14.5 CONCLUSION

Initial success is a condition for the ultimate successful handling of a learning task, including the knowing of the material that had to be learnt. This ultimate success can only be attained if the learning has involved the total person, as discussed earlier on. To sum up, successful learning may be described in terms of three conditional or determining factors, namely:

14.5.1 Significance attribution

Learning can never be wholly successful if the learner himself has not found significance in it.

14.5.2 Involvement

As we have said before, learning is not solely a cognitive or rational matter. If the learner is to create meaningful relationships he must *WANT* to be involved as a person – somatically – mentally, cognitively, affectively and conatively. The greater the scope for total involvement, the greater the likelihood of successful learning; and the more intense the involvement the stronger the influence of the learning activity upon the self-concept. Among other things, the pupil's interest in and attitude to learning and intrinsic motivation will indicate the degree of his involvement. These factors are therefore related to successful learning.

14.5.3 Experience

Another aspect of successful learning is the learner's experience of or feeling for the significance of what he is learning: his lively participation in what he is deliberately making his own makes him at one with the material.

New material must be assimilated into the cognitive structure. This assimilation is not an exclusively cognitive act but is accompanied by experience, active participation and thus involvement in the learning act and its meaning, with a view to success. Success brings the learner even closer to the objectives that were initially formulated: total success is made up of a progressive series of successes.

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CHAPTER 15

Consolidation

15.1 INTRODUCTION

Human experiences are stored in the brain. That is why one is subsequently able to recall what one has experienced. From the cradle to the grave, man is always learning: he is constantly engaged in attributing meaning to his experiences. By so doing he imposes order upon the world and makes it his own. When a child arrives at school for the first time he already possesses a wealth of consolidated knowledge, of which the most important segment is probably his ability to use language. At school the child is taught various things relating to the adult cultural system. The child himself must attribute his own meanings to what he is taught and thus make the material his own by anchoring and establishing it. The formal learning that he does at school is a continuation of the processes of significance attribution and retention, in which he has already made considerable progress during the six pre-school years. The various types of learning are employed to ensure that the material is meaningful to the child. The functional, and therefore consolidated, knowledge required for the simpler types of problems is concrete-perceptual in character. Formal problems require the manipulation of organised concepts until insight into the solution is attained. Success at this level is dependent upon the possession of sufficient knowledge which has previously been consolidated in various ways and is thus functional and available for use.

15.2 THEORETICAL APPROACH AND ASSIMILATION

Consolidation presupposes that what is to be consolidated is already in

existence. There must therefore be a learning achievement signifying successful learning. This first or initial successful assimilation must now be improved upon, intensified, made more comprehensive in scope and more functional. At the same time, a higher degree of permanence must be attained, so that the results of the learning will be functional for future as well as for immediate use. When one discusses establishment or consolidation one needs to say everything at once. The topic cannot be divided into a number of different facets, and even the drawing of distinctions is a delicate matter, for the meanings (sometimes multiple) of various concepts are so closely intertwined that speculation about one inevitably involves speculation about the others. Setting aside this mass of interconnected concepts, let us try to clarify the question of consolidation by answering the following questions:

- (a) What is it that is consolidated?
- (b) What method(s) ensure consolidation?

H.J. Butcher (1968, p. 75) has pointed out that empirical research in connection with problem-solving is influenced by the theoretical orientation of the investigator. A Behaviorist and a devotee of the Field approach will set themselves differing problems, for example. They will propose different kinds of hypotheses and use differing methods. Descriptions of the learning results which are eventually consolidated vary in much the same way. One investigator (Thorndike) describes them as well-trodden reflex-paths; for another they consist of an organised additive accumulation of simpler "elements": "a student is ready to learn something new when he has mastered the prerequisites" (Gagne, 1970, p. 27). Those who adopt the Field approach maintain that learning results far from being additive, are organised and differentiated experiences arranged in significant patterns. As far as this group of investigators is concerned, consolidation is the organisation and re-structuring of meaningful relationships which, via partial and eventually full insight, lead to cognitive clarity. The individual consciousness thus possesses a wealth of structural gestalts.

To avoid the complications caused by differing approaches and virtually irreconcilable problems, methods and results, the following account will be based on a Field approach also adopted by cognitive theorists (Ausubel, 1968, p. 471). The learner is the subject who acts within his own psychological field. Within this field he perceives whatever aspects of the external world have significance for him and accord with his needs, aims, insights, former experiences and abilities. The reality he observes is phenomenological rather than objective and physical.

Since significance attribution takes place progressively, consolidation follows a similar course. Mouly (1970, p. 41) describes the process succinctly as follows: "The learner begins by perceiving the overall confi-

guration, at first imperfectly, but by gradual and progressive differentiation of the components he gets a progressively clearer picture of the whole The emphasis is on organisation, relationships, meaningfulness and cognitive clarity." Repetition is thus an integrated complex of events in which the above-mentioned mental activities lead to consolidation.

15.3 SIGNIFICANCE ATTRIBUTION AND ASSIMILATION

The attribution of significance to the world is based on the integration of what is seen, heard, felt, used, etc. The important point is that significance attribution originates in concrete sensory perception. The Thought Psychologists maintain, moreover, that the lowest layer of thought – the concrete-perceptual – must be adequately filled with direct personal experiences of things before the upper layers can function.

No one, whether child or adult, gains full understanding the moment he perceives something and attributes significance to it. The *longer* one looks the *more* one sees, distinguishes and understands. *Prolonged* perception results not only in more comprehensive understanding but also in more effective consolidation of the meaning of the concept, for its various aspects become more distinct and fit into broader patterns which can be linked with the relevant cognitive structure in a significant way. The range of meaning, and consequently the consolidation of meanings, is increased.

Concepts too, should be perceived repeatedly, so that through critical viewing, analysis, differentiation, and further integration, richer meanings may be apprehended. After the first perception what remains in the consciousness is often only a meagre silhouette; with repeated perceptions of longer duration, the silhouette is filled out with more detailed content and the meaning is thus enriched (Clarizio, et al., 1970, p. 244). Thus what is consolidated is psychologically significant concepts.

15.4 THE ORGANISATION OF MEANINGFUL CONCEPTS

15.4.1 Jean Piaget

Two very important investigators have emphasised the theme of organisation in relation to consolidation. They are Jean Piaget of Geneva and

Jerome Bruner of Harvard. Piaget insists that experience must be organised before one can adapt oneself to the environment.

If we are to understand Piaget at all, we must elucidate the following concepts which have an important place in his work. His research work has been concerned with the nature and course of cognitive development (the cognitive life) of children. He distinguishes a number of clearly-defined phases which coincide with the child's biological growth. The first phase, which he terms sensori-motor, lasts for two years; then comes the pre-operational phase, 2 to 7 years, followed by the concrete operational phase, 7-11½ years, and finally the phase of formal operational thought, from 11½ years onward. Piaget says that operational thought is based on internalised operations, implying that all thought originates in actions or operations (Boyle, 1969, p. 24). When a child under two is confronted with a problem he acts in one way or another. The organised actions that develop during this and later phases are called schemes (schema, schemata). During the concrete operational phase the child forms mental representations (*imaginings*) of concrete things or actual operations or descriptions of operations which it would really be possible to execute. During the formal operational stage the operations are no longer motor but are thinking operations. The structure of the intellect is made up of internalised operations organised into schemas. As a result of this organisation the person is now adapted to his environment. This adaptation is based upon accommodation and assimilation. Accommodation is the change that takes place in a person's cognitive structure in order to permit the execution and assimilation of new thinking operations, whether concrete or formal. In Piaget's opinion permanent learning consists in the assimilation and integration, i.e. internalisation, of experiences of reality into the cognitive or intellectual structure. Accommodation and assimilation are interactive processes by means of which the learner seeks more effective schemas for adaptation to the changing environment. He thus accommodates his schemas, by extending and combining them, to meet new situations and deal with new problems. Adequate adaptation creates an equilibrium between accommodation and assimilation. The thought schemas are subject to changes resulting from accommodation and changes in the environment. Consolidation thus depends upon the organisation of thought-schemas in such a way that they function effectively in everyday or academic situations. Changes in the environment demand constant dynamic interaction and organisation. Such changes occur constantly, both in everyday life and in the didactic situation (with the presentation of new study material). The tried-and-trusted solutions (schemas) do not suit the new problems. Accommodation and assimilation

take place simultaneously and the organisation that follows results in the development of new schemas.

15.4.2 Jerome Bruner

Like Piaget, Jerome Bruner distinguishes three stages in cognitive development, though his are less rigidly-defined than Piaget's. He calls them the stages of enactive, iconic and symbolic representation. Bruner (Clarizio et al., 1970, p. 286) places heavy emphasis upon the consolidation of what has been learned, for he says that "one of the principal objectives of learning is to save us from subsequent learning". He sees this as achievable through organisation and manipulation. He describes organisation as progressive generalisation, continued until a symbol of the highest possible generality has been obtained. This symbol must now be serviceable for thinking and the solution of problems (manipulation). By way of illustration he refers to Galileo's discovery of gravity and the generalisation of his experiments, resulting in the formula $S = gt^2$ by means of which (through manipulation of the generic symbol) ordinary gravity problems can be solved. Bruner maintains therefore, that successful learning requires a generic image through which mental representations can be organised. This generic image can often be represented by a formula, a symbol, or a small group of symbols. Such representation makes it easier to manipulate the *generic* in the course of thinking. He says: (Clarizio, p. 286) "Learning something in a generic way is like leaping over a barrier. On the other side of the barrier is thinking." The method he thinks most suitable for attaining this ideal is that of learning by discovery. Thus he stresses, not the preliminary products of learning but the process of continuous discovery. He describes discovery as "an internal re-organisation of previously known ideas in order to establish a better fit between those ideas and the regularities of an encounter to which the learner has had to accommodate." For Bruner, then, consolidation consists in the organisation of the concepts that have been learnt until a single comprehensive concept emerges. This concept represents all the others and can be used in this representative way in thinking (i.e. for problem-solving).

15.4.3 Ausubel's cognitive clarity and assimilation

D.P. Ausubel's special contribution resides in his model of the cognitive structure. He says: (1968, p. 475) "Meaning can never be anything more

than a personal phenomenological product that emerges when potentially meaningful ideas are integrated within an individually unique cognitive structure". Meaning does not lie in the symbol that represents it but in the individual. Meaning must therefore be found in a personal frame of reference and then reconciled with or assimilated into the concepts and images that have already been consolidated. Meaningful new material can only be assimilated into the existing functional cognitive structure if relevant anchoring ideas are available. These anchoring ideas must be made to cohere closely with the critical attributes of the meaningful if there are logical connections between it and the ideas already present in the cognitive structure. This general relevance must be apparent to the learner: the new must be related to the old before it can be psychologically meaningful. The significance of the new material depends upon the functionality and content of the existing cognitive structure. When new and meaningful contents have been assimilated into the cognitive structure, both undergo changes with the result that it is subsequently difficult to dissociate the new from the old. In this sense it is possible to speak of forgetting, for incidental factual details cannot be remembered. Ausubel calls this phenomenon "memorial reduction". The new material is so thoroughly assimilated into or identified with or subsumed under anchoring concepts that it does in fact remain functionally available as far as its formal significance is concerned. Ausubel advocates receptive learning with its natural counterpart, explanatory teaching, in the conviction that these ensure successful learning and firm consolidation. He explains his view of this type of assimilation in the following way: in the course of instruction the relevant distinguishing characteristics can be singled out in an organised way; if this is not possible *advance organisers* must be introduced to ensure firm anchoring. In this way the anchoring ideas can be linked with the overriding or encompassing concept. Organisation through hierarchical generalisation makes it possible for ideas to be subsumed under ever-broader encompassing concepts.

In Ausubel's opinion successful learning depends upon the existing cognitive structure, i.e., the organisation, clarity and stability of the individual's knowledge in a particular field. If the cognitive structure is unstable, ambiguous and chaotically organised, learning and retention will be hampered. Once the distinguishing characteristics have been singled out from the relevant cognitive structure, the subsidiary concept can be subsumed under the more comprehensive or superordinate concept. This capacity for subsumption is responsible for the perception of relationships via insight. "Sequential organisation pre-supposes, of course, that the preceeding step is always clear, stable, and well organised. If it is not, the learning of all subsequent steps is jeopardized.

Hence new material in the sequence should never be introduced until all previous steps are thoroughly mastered" (Ausubel, 1968, p. 230).

15.5 METHOD OF CONSOLIDATION

The question before us now is: What can be done to establish more meaningful relationships in the cognitive structure, i.e. to give the person more insight? Van Hiele (p. 37) insists that insight is not simply a matter of structuring the perceptual field on the basis of previous experience, but "berust op omstruktureren van het waarnemingsveld" and thus using "struktureren zelf tot bouwstenen van een nieuwe structureren". Prolonged reflection upon and absorption in a problem intensifies involvement in it. In this connection Bigge and Hunt (1962, p. 358) observe that "Man . . . is differentiating and restructuring himself and his environment, he is gaining or changing insights". The solution to a problem situation or to a technical problem is seldom complete. ". . . insight is rarely complete; it is more likely to be a matter of ever-greater clarification of a given point through the clarification of related ideas."

It seems then, that the re-structuring of relationships results in more insight and greater clarity. For this purpose *repetition* is required – not mechanical, meaningless reiteration, but psychologically meaningful repetition which consolidates the meaning and heightens resistance to memory lapses. Everyone knows how important repetition is when one is preparing for an examination; and it is usually essential with regard to the basic rules and concepts for solving a problem. Repetition means doing *again* something that has once resulted in success, but with a different starting-point and thus a different sequence of events. Deliberate repetition requires more intense involvement if it is to result in re-structuring, deeper insight and increased significance.

Repetition does not mean engaging in any radically different or new learning activities. But the manipulation of established relationships in the mind (cognitive structure) does require more intense and more prolonged involvement. It seems that every individual has his own optimum as far as the time required for the formation of meaningful relationships is concerned. The method of revision includes the global method, the partial method, the alternating use of both these, diffused practice and accumulative practice. The general rule for effective and economical learning is that short study-times over a long period give better results than lengthy study times over a short period. The length, meaningfulness and difficulty of the task, the idiosyncracies of individual learners, and the amount of appeal the study material has for the learner will

determine which method of repetition is required for consolidation.

Bruner insists that the first successful relationships must be *organised* by a deliberate process of generalisation in order to obtain the most encompassing and comprehensive symbol. This “generic” or generalised symbol must be amenable to manipulation and must be properly used. Consolidation depends upon purposeful generalisation and on the subsequent manipulation of the resultant generic image. In Piaget’s opinion consolidation depends upon a dynamic interaction between assimilation and accommodation: this interaction results in effective thought-schemes. In advocating receptive learning and explanatory teaching, Ausubel emphasises the significance of the cognitive structure. The fixing of new concepts depends upon the stability and clarity of the anchoring ideas already present in the cognitive structure. The assimilation of concepts is a typical form of receptive learning – which is certainly not the same thing as mere passive absorption. This assimilation is characterised by the endeavour to determine the nature of the relationship between the new concepts and the distinguishing characteristics of the relevant cognitive structure, and by the differentiation of new concepts from existing known concepts, and by the subsequent integration of the former with the latter.

Experience has shown that the most general ideas relating to some part of a subject are the ones that are remembered best. This indicates the manner in which knowledge is stored in the human consciousness, and shows how necessary it is to organise new knowledge or study material hierarchically, with the most comprehensive concept at the top of the pyramid (progressive differentiation). The new knowledge, hierarchically organised, must be amenable to subsumption under more comprehensive ideas which have already been well established in the existing cognitive structure and can therefore act as anchoring ideas. To ensure consolidation the teacher should make it his business to single out these anchoring ideas or, if they are lacking, to organise the existing knowledge both beforehand and in the course of instruction so as to provide some possibility of anchorage.

15.6 THE EFFECT OF CONSOLIDATION

Consolidation describes the state of the consciousness when an optimum quantity of psychologically meaningful relationships have been brought into being with regard to the content of the subject concerned and the learner can say “I understand”. This implies that hierarchically-organised knowledge has been securely anchored in the cognitive structure and that broad generics that are amenable to manipulation are now func-

tionally available. Consolidation in the cognitive structure has the following effects:

- (a) the dissociative strength (with regard to the cognitive structure) of the newly-learnt meaning is heightened;
- (b) the learner's retention and ability to remember the learning results increases;
- (c) the capacity for consolidating and retaining related learning tasks is increased;
- (d) consolidation through repetition not only heightens retention of clear, stable and valid meanings but also intensifies consolidation of related material which has been learnt previously;
- (e) when generics have been consolidated they can be applied in a wide range of situations.

15.7 CONCLUSION

There are intrinsic differences between the S-R and the Field approaches to consolidation. Here we have followed the Field approach. Every learner is a subject who acts. He finds himself in a life space made up of significant relationships with people, things and ideas belonging to the cultural world that surrounds him. Through learning, or rather the attainment of insight, he attributes significance to the world around him: he structures it cognitively in order to make it his own world. An entirely new situation has no cognitive structure at all. Such situations are rare, however. The learner commonly finds himself in unsatisfactory, incomplete and inharmoniously structured situations. When the first successful attempt has been made, whether perceptual-motor or conceptual – e.g. typing thirty words without a mistake or solving a quadratic equation in algebra – the relationships are still uncertain and the insight dim and impermanent. In order to consolidate this success, the insight must be solidly structured. This structuring can be achieved through meaningful repetition, practice and application. Thorndike has proved that frequent repetition does not necessarily ensure consolidation. Repeated learning is essential not only for examination purposes but also for the better understanding of what is already meaningful. This is particularly true when the meaning of the material is relatively autonomous, as is the case with the great variety of facts which must be functional in the study material of all subjects. The repetition of meaningful structures increases the clarity and distinctness of the meanings assimilated into the cognitive structure.

Retention and the actualisation of learning results

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CHAPTER 16

Retention and the actualisation of learning results

16.1 INTRODUCTION

People learn with the object of getting to know things that they have not known before. Now that we have considered the various factors connected with the consolidation of knowledge in the cognitive system, it would be logical to continue our study of the learning process by turning our attention to the actualisation of the learning result. The learner himself, let alone the teacher, does NOT know what has been consolidated in his cognitive system until he tries to recall or remember it, or to actualise it in some other way.

As we have said before, the learning process should not be thought of as hierarchical or step-by-step process that begins and ends with the learning activities of each individual learner. In my opinion the *learning process* is nothing more than a construct, a conceptual object which may be used as a paradigm to facilitate the drawing of distinctions between various aspects of the events involved in learning for explanatory and research purposes.

Similarly, I shall not attempt an artificial separation between the actualisation of what has been learnt and the act of learning itself, whether this takes the form of insight-attainment or that of memorising. Experience has shown over and over again that imprinting and repetition and recall often occur concurrently and interactively until the learner is satisfied that the quality of his actualisation satisfies his own expectations (*as he sees them*) with regard to the readiness and functionality of his knowledge. In many cases actualisation consists in the control the learner exercises over the thoroughness with which study material is consolidated in his cognitive structure.

Sometimes a single perception of a situation is sufficient for complete learning. The significance of what has been learnt is readily available

and is manifested in the person's behaviour. In other cases consolidation requires a great deal of time and energy, and artificial situations (tests and examinations) are created to encourage the learner's recollection and recognition.

The transference of learning results to related or totally new situations is very closely connected with actualisation. Transfer will be discussed in our next chapter. Here we shall be specifically concerned with the recall (remembering), renewed awareness or actualising, here and now, of study material which was consolidated or established in the cognitive structure on previous occasions. That is why we speak of the actualisation or remembering of learning *results*.

16.2 WAYS OF ACTUALISING

16.2.1 Automatisms

In the course of the child's development, learning results manifest themselves continuously. Motor actions such as walking, running, riding a bicycle, jumping and so on become increasingly effective. Linguistic ability improves phenomenally between the ages of one and six years. Structurally and semantically, the child's language corresponds very largely with that of the adults from whom he has learnt to speak. He has learnt enough language to allow him to express his thoughts and communicate with other people. Constant use of learning results in the primary and high schools actualises these results to such a degree that he can read, write, calculate, and handle concepts with increasing efficiency, thus becoming ready for learning of ever-widening scope and increasing depth. The child also learns from experiences outside the school, i.e. at home and in the community in general, from conversations, books, magazines and the radio, and actualises what he learns to a greater or lesser degree.

Ideally, the learner should know what he has learnt so well that it functions readily as an automatism. This applies to both motor skills and concepts. Van Parreren (1962, p. 14) calls the ready automatisms thus put into use non-cognitive action structures. He distinguishes between cognitive and non-cognitive action structures of this ultimate variety. Under cognitive acts he includes typical conscious activities such as knowing, judging, considering, choosing, thinking, etc. In contrast to these, non-cognitive acts take place in such a way that the person is unconscious of them. Among these he includes all those ultimate action-structures in which the learning result is readily available and is used

automatically, as in riding a bicycle, playing the piano or using a language.

The ultimate action-structure is an automatism: i.e. it is readily available without the learner's conscious awareness. In my opinion the actualising of automatisms must always be a cognitive act, since it consists in recalling learning results which were highly significant during the initial and developmental stages of assimilation into the cognitive structure. Since the manifestation of the automatism is the ultimate act or the outcome of a learning process – a meaningful cognitive act – the automatism itself must be cognitive in character even if its actualisation requires no conscious act. Ideally, the learner is no more conscious of actualisation than he is of assimilating knowledge into his cognitive structure. The fact that the skill or concept is used in an automatic way does not mean that the person is unaware of the manner in which it occurs. The automatism or ultimate action-structure should therefore be regarded as cognitive in character. Every meaningful automatism which functions readily and is therefore, as far as the learner is concerned, unconsciously actualised, can in fact be actualised consciously and with complete awareness of its meaning. Hence my contention that an automatism is a cognitive action-structure.

Automatisms such as skills, ready knowledge of names, facts, concepts, ideas and semantic and linguistic usage, may manifest themselves in the learner's behaviour in unconscious ways which nevertheless implicitly include cognitive components such as perception, recognition, anticipation, and so on. The ideal outcome of a great many learning tasks is that the result should be capable of functioning as an automatism.

16.2.2 Intentional recollection (recall)

In this section we shall consider study material which has been consolidated in the cognitive structure through assimilation and which must now be actualised once more. The learning results must now be recalled to consciousness: we therefore face the question of recall, recollection or remembering. The person concerned must make a conscious and deliberate attempt to withdraw material which has been organised and anchored in the cognitive structure, along with a great deal of other material, in order to make it available for use.

In the course of our discussion of the cognitive structure we saw that assimilation takes place with the aid of anchoring ideas selected from the study material which has already been consolidated. The new material is anchored to these ideas. Here we must remember that what is

anchored or assimilated is not a particular piece of study material but its *meaning*. And since it is the meaning of the material that is anchored in the cognitive structure, it follows that the specific facts or attributes of which the material was composed will in the course of time become somewhat blurred. Retention is heightened during assimilation or anchoring. Within a fairly short time after anchoring the new material can be dissociated from the relevant ideas in the cognitive structure and can thus be reproduced as an actual entity or series of entities. Experience has shown that the dissociative strength or degree of dissociability is at its maximum immediately after assimilation. Shortly after anchoring, the material can be reproduced fairly completely and with most of the details intact. Immediately after consolidation in the cognitive structure there is a period of obliteration caused by the fading of specific and incidental attributes whilst they are being subsumed under encompassing concepts. The new ideas become spontaneously and progressively more difficult to dissociate from the anchoring ideas, and are thus no longer available in totality. This is what we mean by *forgetting*.

The concept of a "variable threshold of availability" refers to the fluctuating availability of ideas which have been anchored in the cognitive structure. Literal verbal reproduction is maximal immediately after assimilation. Some time after assimilation the factual details will have been particularly obliterated (memorial reduction). Thus, what is reproduced at a later stage (i.e. the learning result) is the meaning of the original study material. As the availability threshold recedes, verbal reproduction becomes progressively more difficult and the learner relies more and more heavily upon the meaning of the original material (the assumption being that the material was meaningful in the first place). At this stage it becomes necessary to resort to hints, references or questions which may act as points of contact to enable the learner to recall the learning results and actualise the relevant concepts.

At this point the theory of assimilation introduces the important concept of a dissociation equilibrium. This state of equilibrium begins to deteriorate shortly after assimilation, and it may happen that the person is eventually quite unable to recall the learning result. If the dissociation equilibrium declines below a critical point (i.e. if the assimilated content fades beyond a certain point) it may be possible to actualise the learning results only under hypnosis.

It is important to note however, that if the meaningfulness of the material has been emphasised in the course of assimilation the dissociation equilibrium can be kept reasonably constant. Material that has been assimilated can be recalled in a meaningful way through testing, remembering or recollection, with or without the assistance of external aids.

Later we shall refer to the Gestaltists' approach to actualisation. Their *trace system* theory accords with their explanation of retention and forgetting.

At this juncture we are confronted with all the problematic aspects of testing and measurement as ways of actualising learning results. The availability threshold of a learning result which has been consolidated through multiple repetitions, or rather significant *over-learning* (i.e. repetition beyond the point of correct reproduction) is near the surface because the dissociation equilibrium is near the surface. Over-learning results in a high measure of correct and faithful reproduction of the learning result. Assimilation requires constant meaningfulness, clarity and a complete absence of ambiguity to ensure that whatever is anchored in the cognitive system is as clear, distinct and meaningful as possible. If this is the case, the indications are that the dissociation equilibrium will remain relatively constant and will consequently not decline too deeply. The availability level will thus remain relatively constant and fairly close to the surface for a long period.

16.2.3 Testing

In the didactic situation the actualisation of learning results takes place by way of exercises or tasks. The pupils may be required

- (a) to reproduce factual learning results in a factual way; or
- (b) to remember (recall) concepts in a meaningful way.

In either case actualisation, not transfer, is required.

Tests which are being set to determine the quantity and quality of learning results should possess certain typical qualities which may be regarded as criteria. They include:

- (a) *Validity*. The degree to which the test measures what it is intended to measure;
- (b) *Reliability*. The constancy with which the test measures what it is intended to measure;
- (c) *Discriminatory capacity*. Any test must make provision for individual differences with regard to achievement. The greater its discriminatory capacity, the more clearly a test will distinguish among the persons being tested as far as their achievements are concerned. A normal distribution of marks yields a maximum discrimination at both ends of the scale;
- (d) *Objectivity*. Objective tests eliminate subjectivity and inconsistency with regard to the assignment of marks.

Tests are usually set in the following forms:

(a) **ESSAY QUESTIONS**

Questions of this type of test, among other things, the student's ability to organise ideas with the help of learning results, to adduce evidence for what he says, to construct a convincing argument, to evaluate material critically and to express himself clearly and persuasively.

(b) **OBJECTIVE TESTS** (usually standardised)

These require short-sentence or one-word answers. The learning results that have to be actualised are specific facts, concepts, principles and applications which the student is presumed to have assimilated and mastered. The answers may be either recalled or recognised. Recognition of the correct answer permits of a much lower dissociation equilibrium, and hence a lower availability threshold, than does the recalling of the learning result. The learning result required as an answer may thus have so remote an availability threshold that the student cannot recall or reproduce it of his own accord, though he may be able to recognise the correct answer if he sees it.

16.2.4 Actualisation through re-activation

The psychology department of Amsterdam University has developed a "system theory" which accords with Gestalt psychology. I shall not attempt to deal with this theory in detail but shall merely refer to a few concepts that are relevant here.

Perception occurs in gestalts, that is in meaningful wholes. Perception of the gestalt is the result of insight. That is why the attainment of insight is equated with significance attribution. The human consciousness thus contains a system of organised gestalts. To this idea the system theorists add the concept of a trace which remains in the physical-physiological structure of engrams as the correlative of the gestalt, which is a mental phenomenon. According to this view the recalling of a learning result would occur in the manner described by J.C. Eccles (1953): "We may say the remembered thought appears in the mind, as its specific spatio-temporal pattern is replayed in the cortex." This notion of a physical-physiological memory trace and the possibility of re-activating such traces has been severely criticised. Erwin Strauss (1965, p. 73) says in this connection: "The theory of traces claims that a dormant trace is awakened to new life." It would then be on the level of a miracle, which he finds an unacceptable idea in this context. He goes on to say: "A 'conscious experience', corresponding to a reactivated trace, would also be limited to the actual now, like the reactivated trace. It would not be a

repetition, not a recollection. The 'once before', the 'earlier' or the 'again' do not belong to a single memory-image." In saying this he is criticising only the idea of "memory traces" which can be *activated*. He does not doubt the possibility of a connection between the mental and the physiological, for he says (Strauss, 1965, p. 74): "Meaning and possibility of psycho-physical co-ordination must be examined anew."

It is against this background that we must view the Amsterdam theorist's use of the terms *trace*, *memory trace* and *reactivation of memory traces*. Van Parreren (1962, p. 73) explains that although "trace" is used as a concept, and confusion may result from the above description, he qualifies the usage as follows: "Wij laten al deze (met verwysing na Koffka) en ook de nieuwere fysiologische theorieën ten aanzien van de sporen geheel buiten beschouwing. Sporen zijn voor ons geën fysiologische processen of entiteiten, doch uitsluitend psychologische potenties waarvan wij de veronderstelde eigenaardigheden baseren op de gegevens en uitkomsten van psychologische onderzoekingen."

The learning result exists then, in terms of meaningful organised trace systems (gestalts). The trace system can be reactivated only if the person sees some kind of connection between the actual situation and the learning result. The actualisation of a trace can take place only under certain circumstances. Traces of a person's experiences, whether these take the form of intentional learning, incidental learning, or practical everyday happenings – remain in his memory. These traces are not isolated from one another but form an organised psychological field.

In order to re-activate these traces, connections must be found between the new actual situation and the traces of the relevant learning results.

This may be done by deliberately forging a connection, i.e. by consciously trying to think of what one "learned" about some particular subject at a particular place in a particular book. Systems may also be deliberately re-activated by means of questions, tests, and so on. Re-activation is greatly facilitated by instruction that imprints well-organised, definite and strongly related labels upon the mind. Re-activation is easily achieved with the aid of such labels, which act as traces. It is important to note that connections can only be forged if corresponding factors are present.

16.2.5 Infusion

By infusion we mean the actualisation of learning results the traces of which belong to a system which at the moment of actualisation has no real existence (Van Parreren, 1962, p. 124).

In such cases the actualisation of learning results is brought about by infusion. Re-activation is not possible here, because the instructions for the situation data do not refer to any available traces in a relevant trace system.

For example one may, by applying a particular method of solution, penetrate the organised trace system until the most relevant trace is found. This concept of infusion is similar to Otto Selz's concept of anticipatory schemes or thought patterns, which receive direction from the purpose, thinking operation or task with which the person is engaged.

Infusion often occurs in the course of complex tasks, where the question or exercise is not in itself directly related to any trace which would recall the learning result. Thinking is directed by a general approach, method or thought pattern until relevant traces begin to appear. An actual scheme now becomes more active and the relevant learning result is actualised.

16.3 FORGETTING

Few things are more frustrating to a learner than the fact that he forgets what he has learnt, i.e. things that he once knew and would have liked to remember. Forgetting presupposes the existence of learning results that can no longer be recalled. One cannot forget what one has never known. The problem is that things are not always either black or white: there are a great many shades in between. This applies to learning too. Sometimes learning is successful: the study material is meaningful and insight is attained. Repetition, practice and manipulation result in consolidation. With the passing of time fewer and fewer facts can be reproduced. Meanings can be reproduced for a much longer period, but these too become vague. At this stage it would be proper to speak of forgetting.

Sometimes learning is only fairly successful. Insight is attained, but only imperfectly – it is not completely clear, distinct and unambiguous. A reasonable degree of consolidation can be obtained by *over-learning* (repetition beyond the point of correct reproduction), in which case there is a certain amount of mechanical memorising. Because insight has been defective the person forgets not only the facts but a good deal of the original meaning as well. This type of learning and forgetting is very common in the didactic situation.

Mechanical memorising is also very common. Here we are not thinking of the meaningless words, cyphers, symbols or figures that are sometimes used in psychological laboratories. Pupils and students sometimes

do not understand their study material even though it is logically meaningful. And because they do not understand it, it is not psychologically meaningful to them. The individual words are understood, but not the context in which the concept occurs. Correct reproduction may be obtained by over-learning, but because the meaning has not been assimilated into the cognitive structure the person's knowledge of the facts becomes vague and may disappear altogether.

Forgetting then is the phenomenon that occurs when learning results can no longer be reproduced. Various theories have been developed to explain this exceedingly common phenomenon.

16.3.1 Assimilation into the cognitive structure

During assimilation the distinguishing characteristics of the new study material are connected with and subsumed under encompassing concepts which act as anchoring ideas. It is the meaning, not the material itself, that is assimilated. After assimilation the meaning of the new material is gradually reduced by being included in the meaning of the corresponding anchoring ideas to which it has been attached.

When the obliteration stage of assimilation begins, the new ideas spontaneously become progressively less dissociable from the anchoring ideas: they gradually lose their independent identities until they are no longer available and are therefore said to have been forgotten. The meanings of the most comprehensive ideas have the greatest degree of permanence. The meanings of these comprehensive ideas are broadened by the ideas that have been included in them. When the process of reduction sets in the dissociation equilibrium is lowered and the availability threshold sinks. Eventually the learning results can only be actualised with the aid of hypnosis, and later still they cannot be actualised at all. Time however, is not the only factor involved.

When we consider forgetting we naturally ask ourselves what factors tend to promote retention and thus to combat forgetting. Forgetting is no more a mechanical process than are learning and retention.

Throughout our discussion of learning in its pedagogic context we have emphasised the importance of psychological or phenomenological *meaningfulness*. Pupils sometimes learn vague, diffuse, ambiguous or incorrect meanings. The likely consequence is a defective or even an incorrect learning result, which may possibly not be discovered until the result is actualised during a test. Correct and clear meanings in a well-integrated cognitive structure go a long way towards retarding or preventing the process of forgetting.

The cognitive structure is a construct in which provision is made for

personality factors. The permanence with which a person learns seems to be positively related to the degree of ego involvement in his participation in learning activities. Among others, Sawry and Telford (1968, p. 197) mention experiments that indicate the existence of this positive relationship.

Ego involvement may be described as a personal desire to be concerned with something. The degree of ego involvement indicates how important it is to the learner that he should know the study material. Ego involvement is reflected in the fervour, diligence and perseverance with which the person participates in the learning activity concerned. Forgetting is a function of meaningfulness, but also of the degree to which the person is involved in the study material.

A third factor is the *nature of the learner's experience* whilst he is learning. The quality of experience is subjective and personal. According to Sonnekus (1968, p. 23) "beleving is die intensioneel bepaalde subjektiewe, persoonlike (paties-normatiewe) stellingname deur die persoon as totaliteit-in funksie in sy kommunikasie met die werklikheid". This pathic-affective experience is largely responsible for the attribution of connotative significance to the study material. Learning results that are rooted in pathic-normative experiences of this kind are much less likely to be forgotten than are results whose gnostic significance is not supplemented by pathic-normative experiences. Thus forgetting is also a function of the quality of the learning experience. The three *modi of learning*, namely *meaningfulness*, *involvement* and *experience* are the conditions for successful learning; if these are defective, forgetting will be accelerated.

16.3.2 Interference

Here we distinguish between retroactive and proactive interference. Retroactive interference has to do with forgetting that can be ascribed to activities – particularly learning activities – which have followed the consolidation of the study material concerned. The learning result is forgotten under the influence of the subsequent learning activity. Proactive interference relates to forgetting that occurs because the consolidation and retention of the learning result has been obstructed by the previous learning task.

The Neo-behaviorists strongly support the interference theory and have attempted to explain it. Osgood (1953, p. 550) for example, says: "Forgetting is a direct function of the degree to which substitute responses are associated with the original stimuli during the retention interval. This is really . . . a definition of retroactive interference."

The Gestaltists and the Psychoanalysts also offer explanations of forgetting. The Gestaltist view is that forgetting is a process of autonomous disintegration of (memory) traces, resulting from a poor organisation of material. Weakly structured gestalts are formed, thus producing impermanent, chaotic traces which disintegrate spontaneously.

According to Psychoanalytical theory, all forgetting is motivated. It is simply a product of repression. Ideas or impulses that might cause anxiety are pushed into the unconscious and thus forgotten.

16.4 CONCLUSION

One cannot really speak of learning results until they have either manifested themselves explicitly in the person's behaviour in the form of automatisms, or been deliberately actualised. However a great many learning results are informal. These are often the product of incidental learning and intra-dynamic interaction with what the person already knows. These manifest themselves both gnostically and pathic-normatively in the person's cognitive structure, and indeed in his whole life, behaviour and personality.

This unintentional and informal learning is important and occurs throughout a person's life: it should therefore not be left out of account. However for present purposes we have emphasised intentional and formal learning.

In this chapter we have considered the withdrawal of learning results from the cognitive structure for the purpose of actualisation. The learning process is cognitive in character; it originates with the intention to learn and is almost complete when the learning results are actualised. The final stage of completion is reached when transfer – i.e. the application of actualised learning results – takes place. This will be discussed in our next chapter.

In this chapter we have dealt cursorily with a few theoretical explanations of the actualisation of learning results, and we have emphasised the recalling (remembering) of psychologically meaningful study material from the cognitive structure because this type of actualisation is both highly significant and completely justifiable from the pedagogic point of view.

In conclusion we may say that in all fields of study there are certain learning results that must be readily available as automatisms. The person must be able to reproduce these results readily, but they must also be meaningful to him. The intentional actualisation of meanings is

always to some extent dependent upon automatisms. In testing and measuring we must be careful to distinguish between learning results and transfer, and the accent must always fall upon meaningfulness.

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CHAPTER 17

Transfer

17.1 INTRODUCTION

Transfer is the name given to the phenomenon that occurs when knowledge acquired in one field influences the way in which work is done and the level of achievement reached in some other field. Usually this influence is positive, but it may be negative.

In the preceding chapter we emphasised the actualisation of learning results. We were therefore concerned with the actual recollection of what has been learnt. During transfer the learning results are applied and used in other situations – either modifications of old situations or totally new ones. The dividing line between the actualisation of a learning result and the functioning of such a result as an influence in other situations is by no means clear-cut. Both theoretically and in practice there are many ways in which the transfer of informal, incidental or casual learning might take place. The range of this transferred knowledge is wide and its influence important: it manifests itself, for example, in the child's functional linguistic ability and in the effects of cultural influences. This aspect of transfer is certainly important and merits attention, but in this chapter we shall concentrate on the effects of transferring learning results which have been intentionally consolidated. Knowledge derived from a study of transfer in this context will throw some light on the phenomenon in general.

17.2 TRANSFER AND THE COGNITIVE STRUCTURE

According to the assimilation theory, meanings are consolidated in the cognitive structure. The various aspects of assimilation are interpreted in different ways by different people, but it is generally agreed that what is consolidated is meaning.

In Piaget's opinion assimilation is the way in which experiences are arranged in schemas in the course of internalisation. Accommodation is the change that occurs in the person – in this case his schemas – so that new operations (actions propounded in thought) can be internalised. An operation, then, is a meaningful representation of an action and an ordering of new thought-schemas which are based on previous schemas. Thus, schemas of operations are arranged in the cognitive structure for future use. Piaget's experiments are mainly concerned with the transfer of meanings.

The ideas put forward by Bruner of Harvard correspond very closely with those of Piaget, except that Bruner places the emphasis upon generalisation. At first the child's learning consists in searching for "an image of the path", but Bruner (1964, pp. 1-15) goes on to say: "Our main concern is not with the growth of iconic representation, but with the transition from it to symbolic representation." He thus emphasises language as the source of symbols by means of which generic concepts can be contained or represented in the cognitive structure.

Ausubel's whole "cognitive theory of meaningful verbal learning" is based upon the attribution of psychological significance to logical or potentially meaningful study material. During assimilation meanings are subsumed and this brings about significant changes in them.

To sum up, we may say that the protagonists of the theory of assimilation into the cognitive system all agree that what is assimilated or internalised is meaning.

It is evident that assimilated learning results are meaningful and that the ability to transfer them to new situations depends upon their possessing this quality of meaningfulness. A primary condition for transfer, therefore, is a clear, stable and unambiguous cognitive structure which will allow such meanings to become apparent.

17.3 DIRECTIONS OF TRANSFER

17.3.1 Lateral or sideward transfer

The individual who bases the work that he is doing upon knowledge acquired in other fields or in relation to other subjects, is actualising lateral transfer. This occurs in all formal learning situations as well as in everyday life. In order to balance one's bank statement one must add and subtract correctly, as one learned to do at school. And to work out the total number of electrical resistances joined in parallel, as one is required to do in physics, the student must use his arithmetical knowledge

of the addition of fractions to arrive at the formula

$$\frac{1}{R} = \frac{1}{r_1} + \frac{1}{r_2} + \frac{1}{r_3}$$

Mathematics has an enormous number of transfer functions, particularly with regard to the physical sciences.

The quantity of knowledge that can be transferred laterally ultimately depends upon the breadth to which the learner can effectively generalise what he has learnt, with a view to new situations.

We know from experience that all students cannot transfer learning results to new situations with equal ease and efficiency. Whether these individual differences should be ascribed to study methods, teaching methods, intelligence or other inherited characteristics, or to a combination of these and possibly other factors, is still an open question. Teaching and study methods are variables which certainly warrant intensive study in this context, and are indeed receiving close attention. Gagné (1970, p 336) for example, says: "Accordingly, the usefulness of any learned capability will be increased if it is practised in as wide a variety of situations as possible." Such a variety of situations increases the possibility of relevance. Similarly, Bruner (1970, p 124) says: "To instruct someone . . . is to teach him to participate in the process that makes possible the establishment of knowledge Knowing is a process, not a product."

17.3.2 Vertical transfer

Learning results make it possible for the individual to understand and execute other learning tasks that are more advanced and more complex. The primary internal condition for vertical transfer is the mastering of the ancillary abilities. Although previous learning results are emphasised, vertical transfer depends ultimately upon functional learning products. Reproduction is required, but it must be meaningful reproduction that is functional within the particular context. The broader and the more flexible the person's established knowledge, the more potential there is for vertical transfer. Examples of vertical transfer are encountered in formal learning in all curricula in which relatively simple learning results are followed by more difficult and more complex study material.

17.3.3 The quality of the cognitive structure

Transfer is principally a function of the relevance, meaningfulness, clar-

ity, permanence, integration and explanatory breadth of the ideas that were originally subsumed under more comprehensive ideas. Generalisations may be transferred if they are thoroughly understood and if there has been sufficient over-learning. Ample concrete, empirical examples (deductive) will be required, particularly in the primary school.

17.3.4 Transfer is not an automatic process

The anchoring idea in the cognitive consciousness to which new ideas are to be attached must be singled out in the course of advance organisation. In presenting the study material the teacher should differentiate the information in a progressive manner, i.e. the most general and comprehensive ideas should be presented first, after which there should be progressive differentiation in terms of specific detail.

In order to make provision for transfer whilst the cognitive structure is being formed, each subject must be integrated, and all subjects must be integrated with one another, in such a way that common ideas may be singled out and reconciled. This recognition and actualisation of ideas that are common to two or more subjects makes lateral transfer possible.

Vertical transfer is made possible by the arranging of the study material in a sequence of steps. This ensures that there are no “gaps” in the cognitive structure: that the material required for the next step, or for transfer, is actually there. For linear programming and for the “guided learning” advocated by Gagné, the study material is organised in such a way as to supply the antecedent information which must be applied in more complex learning tasks.

Thus Ausubel (1968, p. 162) having emphasised the importance of a clear, distinct and unambiguous cognitive structure, defines the specific condition for transfer as follows: “Thus transfer can be facilitated by providing opportunity for learning principles in as wide a variety of situations as possible, by explicitly emphasizing the similarity between training and the criterial tasks and by presenting the latter tasks continuously or in close succession.”

17.4 OTHER THEORIES OF TRANSFER

17.4.1 Generalisation and transposition

The cognitive-structure theory of transfer is related in some respects to

C.H. Judd's theory of classic generalisation. Judd emphasised the specific generalisation for discrete problems. In Ausubel's view, the formation of a functional cognitive structure by means of receptive learning is more important than specific generalisation. The idea of meaningful variables does include Judd's generalisations, but only as part of a more comprehensive functional unity.

There is a remarkable similarity between Ausubel's view of the cognitive structure and the transposition theory put forward by the Gestaltists and the Field theorists, to the effect that transfer takes place through the person's perception of the relationship between known principles and the particular case represented by the new situation. The cognitive theory emphasises these relationships as well as the process of generalisation.

17.4.2 Formal moulding

The "ability psychology" of former days was based upon the hypothesis that the human mind consisted of a variety of capacities such as memory, reason, concentration, and so on. Each of these could be exercised separately. If the capacity for memory were being exercised, for example by memorising a large number of poems, the capacity improved and the person would find it easier to memorise other kinds of study material. This implied that the child should be induced to study certain specific subjects: mathematics and Latin, for instance, would improve his capacity for logical thought. Any improvement in the capacity concerned would be transferred to all the other fields of study.

At the beginning of the present century this theory was subjected to close and careful experimental testing by people like James, Thorndike, Woodworth and Briggs. They found no evidence in support of formal moulding. Later, J.B. Carroll (1940), A. Rapp (1945), A.G. Wesman (1945) and Strom (1960) (Ausubel, 1968, p. 163) produced experimental findings indicating that the studying of one school subject has no appreciable influence on learning achievements in other subjects.

But despite experimental refutation, the theory of formal moulding is even now by no means dead. A discussion of teaching aims in a book published in 1960 contains references to the capacity for problem-solving, the capacity for critical thought, and so on. The ideas of the past cannot be altogether cancelled out with a simple stroke of the pen.

However the idea of capacities, as it was originally formulated, really is a thing of the past. The concept of *capacities* has been replaced by that of *functions*, which is somewhat narrower in scope. On this basis Woodrow (1927) found that methods of memorising are affected by transfer,

and Weggitt (1934) showed that transfer also influences people's study-habits. Selz and the Mannheim school demonstrated, moreover, that methods of problem-solving can be acquired and that these have considerable positive value with regard to transfer. This is not a reaffirmation of the old idea that there are substantive mental capacities which can be improved. The student is indeed in a better position to solve problems, but a great many diverse cognitive functions are also active when such tasks are being performed and the person is involved as a totality.

17.4.3 Identical elements

Thorndike developed his "transfer of training" theory in 1913. In his opinion transfer is possible if the new learning task includes elements that are identical with elements contained in the old learning result. The degree of transfer depends upon the quantity of identical elements. This view is based upon the mechanistic principles in terms of which he explains his theory of "connectionism". Though it is true that transfer does occur where two sets of material contain identical elements, many other factors play a significant part in the process. Among these we may mention principles, generalisations, methods, techniques, the intention to learn, attitudes, self-confidence, the self-concept, personal involvement and other personality factors. Since learning involves the total person, transfer will bear a relationship to the learner's total involvement.

17.5 CONCLUSION

Jerome Bruner (Clarizio et al., 1970, p. 286) says that "... One of the principal objectives of learning is to save us from subsequent learning". He sees effective learning in terms of generalisation that can be transferred to new situations.

Transfer occurs when learning has been successful, and it must be regarded as both an aim and a result of such learning. What a plight man would be in if he were able to make use of each little bit of discrete knowledge only if it were a specific learning result. Transfer does occur, both laterally and vertically, but it is not an automatic process.

Experimental findings (Clarizio, 1970, p. 282) indicate that there is a positive correlation between intelligence and transfer. It has also been shown by various investigators that the greater the degree of correspondence between tasks the more effectively transfer is likely to take place. Transfer is also closely connected with teaching methods and methods

of study. As in the case of learning, and indeed all human activities, physical and mental health is an *a priori* precondition, i.e. the necessity for it is self-evident.

Glancing back at what we have said about the nature of transfer and the experimental data concerning it, it would appear that transfer depends upon:

- (a) *Personal involvement in the act of learning.* This includes a conscious intention to learn, a suitable cognitive style, interest in and readiness for the learning task.
- (b) *Reactivation of the relevant concepts, principles or identical elements.* The learner's perception of related or corresponding concepts should not be clouded by a mass of incidental, irrelevant, or even specific characteristics or details.
- (c) *Actualisation of learning results.* In addition to recognising the situation, the learner must be able to recall the relevant learning results from his memory (i.e. remember them). If he cannot do so we say that those results have been forgotten. The learning results required for transfer must have been consolidated in the learner's cognitive system, and the consolidation must have been accompanied by a feeling of success. It must not be unpleasant or painful for the learner to remember the learning result, otherwise there will be a tendency towards repression or other defence mechanisms where that particular learning result is concerned.

When we study transfer, the emphasis shifts to the manner of learning and the method of teaching that will ensure eventual transfer. This interest culminates in teaching for transfer in the didactic situation. This teaching implies, *inter alia*, that the teacher should *assist* the pupil to become personally *involved* in the act of learning and to *experience* his relationships with the subject matter meaningfully. The *meanings* thus assigned and grasped and consolidated by the pupil may then be fully available for *transfer* in novel situations.

Storage of knowledge

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CHAPTER 18

Storage of knowledge

18.1 INTRODUCTION

Teachers and empirical educationists are always concerned with the problem of knowledge, its acquisition, availability and functionality. Learning explicitly concerns knowledge. Our primary consideration throughout has been the child in his totality. The child is always in a relationship with his world. Learning presupposes understanding on the part of the learner, for which involvement is a prerequisite. Understanding or discovering meaning is not simply a coldly objective rational matter. The one who understands is always a human being, someone who *experiences* the insight, success in a learning task, grasping of relationships, recognition of a new discovery, etc. as agreeable, exciting, enjoyable, encouraging, or the reverse. The attribution and discovery of meaning, of which the learner must give an account either immediately or at some later stage, occurs in the course of his *total personal involvement* with the attribution of meaning.

The human consciousness, contrary to what Locke had supposed, is not a blank sheet on which letters, symbols, ideas, etc. are imprinted as on clay or wax tablets. Knowledge is never received passively.

Insight is not achieved unless the learner focuses intentionally on the learning task (which could be a sensory impression) with the intention of knowing it. But does the intentionality revert to its original state of pure potential when the cognition has been completed (Royce 1969)? The answer to this question is shown by experience. If one has to master the same piece of knowledge again on a later occasion, one does not have to struggle one's way through the entire process the second time. Every one has had the experience of being able to recall knowledge of which he had not been conscious for many years. It has even been shown that knowledge which an individual once possessed and can no longer recall

through recognition, can be evoked by means of hypnosis. At any given moment one knows a deal more than one is aware of. And having once known something, one retains certain residues of greater or lesser functionality.

Of course, one has no access to an individual's knowledge other than his attempts to recall it. One learns to make the learning task your own, for it represents knowledge or skill that will enable you to do what was once beyond your reach. Learning is a phenomenon peculiar to man, for he learns throughout life to act and live more efficiently.

18.2 THE NATURE OF KNOWLEDGE

At this moment my consciousness is focused on the objects on my desk, on the noises I hear and the theme I am considering. As the stream of consciousness continues, these experiences rapidly slip into the past. Some of them I shall recall easily, others will be totally forgotten. I am oriented in respect of the objects and people in my life-world because I attribute meaning to them. Because of these meaningful relationships I am able to live in a particular way.

Certain *motor skills* acquired with great pains function as *automatisms*. Examples include walking, writing, cycling and swimming. These actions are performed automatically, as it were. They require no recall or reflection. In fact, thought can even interfere with the smooth progress of an automatism, e.g. returning a ball in a game of tennis. Life is made possible by such automatisms.

Once a child has mastered *language* effectively a whole host of words, phrases, concepts, names, etc. function as automatisms. This knowledge enables him to think and communicate.

It is therefore important that when learning a language the child should know the customary, ordinary meaning well enough to be able to use it without effort or reflection. Note that in acquiring knowledge that has to become automatic, the goal is always functionality. This knowledge must always be readily available for purposes of communication and thought.

18.2.1 Mechanically memorised knowledge

Knowledge that has been mechanically memorised can re-enter the conscious mind through reproduction. In this case the learning intention is directed at reproduction rather than understanding of the subject matter. Often names, words, dates, poems, arithmetical tables, etc. are

mechanically memorised, probably because exact reproduction is required. It has the implication that if only perfect reproduction receives recognition, pupils will tend to memorise mechanically even when comprehension is necessary.

18.2.2 Images and meanings

Theoretical and empirical research seems to indicate that two types of knowledge are reinforced, viz *images* and *meanings*. A small baby recognises his mother's face. Before the preschool child has learnt to read, he recognises his parents' car and those of many other people. He also recognises the picture on the breakfast cereal packet or the ice cream container. It would seem that young children manipulate this knowledge in the form of images. Speaking of this phenomenon, Prilbram (1969, p. 200) writes: 'My plea is, therefore, that we not lose sight of the picturesque, for the brain is built to work with pictures.' With reference to learning methods he says that 'learning through image-making is equally potent'.

Insights and concepts require attribution of meaning. One can distinguish between conceptualisation and the assimilation of concepts, with problem-solving as an additional facet. In this regard we are thinking of a wide range of 'meanings' which the learner must store for immediate or future use. How are these meanings stored? Sonnekus (Nel et al. 1965, p. 302) speaks of personal integration while Van Parreren (1962, p. 15) refers to the organisation of meaningful subject matter into meaningful contexts. Several other authors speak of structuring meaning so as to form cognitive structures (cf. Ausubel 1968; Mouly 1973; Klausmeier 1975). Generalisation is essential, since this is the only way in which broader concepts with a wider range can be obtained. This peculiarly human capacity for obtaining and retaining a vast hoard of ideas and information in every sphere of knowledge through meaningful verbal learning is based on cognitive abilities such as symbolic representation, abstraction, categorisation and generalisation (Ausubel 1968 p. 59). All this points to conscious manipulation of concepts so as to find relationships and to structure these concepts. Man cannot operate effectively by means of arbitrary associations and discrete cognitive entities. Experience has shown that he can internalise such knowledge only through relearning it and that even then it is soon forgotten.

New ideas learnt in a meaningful way are integrated in the cognitive structure and are much less susceptible to interference, fading and premature forgetting. Meaningful learning of new ideas does not exclude repetition. Some learners moreover require more time, manipulation

and practice – which are cognitive activities – before consolidation is complete. Such meaningful repetition aimed at clearer understanding is totally different from mechanical memorisation aimed solely at correct reproduction.

Recall of meanings from the cognitive structure through memory or recognition is production rather than mere reproduction (Van Parrenren 1962, p. 15). It is not so much a matter of recalling learnt ideas in their totality, but of restructuring them.

Penfield (Pribram 1969, p. 165) writes: 'Most of what man calls to mind voluntarily is made up of generalisation.' He remembers a song and can hum the tune without recalling when and where he learned it.

Gestalt theory maintains that each psychological element, whether perceptual or active, is modified as soon as it is embodied in a new Gestalt. Knowledge that is recalled and is functional in thinking does not constitute reproduction but is based on '... reorganisation, restructuring and production' (Humphrey 1963, p. 184).

Meanings as generalisations are concepts linked as such with a linguistic symbol. They are stored, recalled and used in this way. Ausubel (1968) emphasises his assimilation theory, according to which meaningful verbal learning entails the assimilation of 'clear, stable and unambiguous meanings' (p. 56) for storage in the cognitive structure.

If the generalisations to be stored as meanings are attenuated, one wonders what will eventually be recalled. In this regard Norman (1976) agrees with Bartlett when he writes (p. 223): 'Remembering is viewed more as process of reconstruction than as recollection.' Hence what is actually recalled appears to be the generalisation as meaning. Without being aware of it, the individual reconstructs the situation in detail from his experience. It is commonly known that the evidence of different eye-witnesses to the same accident will differ. Each is convinced of the accuracy of his own account even though it differs from that of other witnesses in certain respects. To a large extent the details are reconstructed from personal experience.

New ideas are comprehended and assimilated by means of meaningful verbal learning. Such understanding of new subject matter is facilitated if it is presented in structured entities. These structures promote internalisation since the conscious mind grasps images, particularly visual ones, more readily.

The concepts embedded in the cognitive structure cannot always be recalled at will. Sometimes this is possible, but other ideas can only be recollected through recognition, while yet others can be recalled solely by means of hypnosis. Whether they can be recalled or not, these concepts are not in a passive or dormant state. This phenomenon is illustrated by the perceptual process.

The perceiver is perfectly conscious of the traces of past experience and the fact that something is added to 'objective' reality. Madison (1969, p. 237) uses the term *reintegration* to describe the process whereby incoming sensory stimuli locate corresponding traces of past experience and interact with them, thereby integrating the conscious perception as a joint product of current stimulus and the rudiments of past experience.

In discussing perception, Lorenz cites the phenomenon that in his interpretation of an object which is, say, seen, the individual makes use of knowledge of which he is unaware. He writes (Pribram ed. 1969, p. 41): 'Quite obviously, the highly complicated perceptual processes here under discussion imply something like an unconscious memory in other words a storage of information that is inaccessible to our selfobservation.' Hence a distinction should be made between knowledge stored in such a way and knowledge that can be recalled at will. Other cognitive components appear to reside in the unconscious since they are impervious to voluntary recall. It would seem that there is a dynamic interaction between ideas in the cognitive structure at a low level of consciousness. This may account for divergent thinking and creativity.

18.3 WHERE IS KNOWLEDGE STORED?

In the previous section we were concerned with the state in which knowledge is stored, the assumption being that meaningful ideas are integrated with relevant anchoring ideas in the cognitive structure to produce an integral structure. Different spheres of knowledge will probably have separate, interconnected structures.

Mechanically memorised knowledge certainly does not form part of the cognitive structure. Ausubel (1968) gives a possible explanation for this. He suggests that such knowledge floats like 'loose clusters' among the components of the cognitive structure.

Bear in mind that the cognitive structure is used as a construct to account for the phenomenon of the retention, assimilation and memorisation of knowledge.

Psychopedagogics has no simple explanation of where knowledge is stored, but a neighbouring discipline like neurophysiology casts some light on this matter. Owing to its complexity and the large number of unknown factors, we merely refer to this aspect in passing.

Neurosurgeons have found that by touching the cerebral cortex with an electrode at a specific point, using a local anaesthetic, the patient will relive a whole train of past experiences. Penfield (Pribram, 1969, p. 168) writes: '... a stimulating electrode, applied to the surface of the inter-

pretive cortex of a conscious man, sometimes selects a moment in past time and causes the stream of consciousness to flow again. This record apparently includes all that the individual was aware of at the time, things seen and heard in normal detail, things felt and believed.' Apparently the neuroactivity accompanying each consecutive state of consciousness is permanently imprinted on the brain. This imprint is a track of neuron connections that can be traced many years later by an electric current, thereby triggering a re-experience.

One immediately wonders whether all sensory impressions and images are registered intact. Penfield offers the following answer (Pribram 1969, p. 166): 'What he turns his mind to will be preserved in the brain's sequential record. The concomitant doing, which were subconscious, are not recorded, at least not in the same way . . . There is no evidence, as far as I am aware, that any of the things he ignored are stored away – at least not in any available form – in the central nervous system.' He also claims that a child learns when, and only when, he is paying attention. This indicates that cerebral mechanisms are under control of the personal ego.

These details show that knowledge is in fact stored in the brain. However, it is not possible to mechanically recall a particular scrap of information by means of electric stimulation, although by directing the consciousness it can be recalled through memory and recognition. Penfield admits this (p. 158): '... there is no thoroughfare of cause and effect between the brain and the mind of man, and there will be none until a new bridge is built.' In the light of these findings we are justified in assigning primary importance to the involvement of consciousness in the acquisition and storage of knowledge. Since attention in the sense of personal involvement is cardinal in the consolidation and retention of knowledge, we shall refer to it briefly.

18.4 INVOLVEMENT AND THE STORAGE OF KNOWLEDGE

We have said that involvement is a prerequisite for the attribution of meaning. We do not deny the phenomenon of incidental knowledge (cf. Van Parreren, 1962), but this has little value, especially for the type of learning done at school. As the developing child constitutes his expanding life-world he increasingly forms relations with people, objects and ideas with which he is involved. The quality of his experience constantly determines the continuation of this involvement and the quality of meaning.

The phenomenon of involvement can be broken up into more homogeneous components so as to form a clearer grasp of it. These would include an observant mind, attention, perseverance, learning time, cognitive style, insight.

An important component of involvement is attention. Van Niekerk (1971, p. 22) defines it as the measure or degree in which the person is focused on the performance of an activity in which he is engaged, hence the extent to which he is wrapped up in it. The way of paying attention also denotes its concentration on the matter in hand, in this case on the learning assignment. To remember something one must first understand it. This requires involvement and especially concentrated attention.

Since the act of attending with a view to understanding and consolidating knowledge is intentional we are clearly concerned with an action by the person in his totality. When the individual selects an object for this attention, the affective, conative and normative components each fulfil a very special function, in addition to the cognitive component which is of course pre-eminent in matters of knowledge. One decides on the object to which one will devote one's attention so as to know it, remember it and be able to reproduce it. Nothing is automatic or mechanical.

Hence only situations, learning tasks, concepts and images to which the individual pays attention, i.e. wants to know, will eventually be known and stored as knowledge.

18.5 SUMMARY

Man learns in order not to have to learn again. This means that the knowledge he acquires should be functional. To orient himself and create a life-world he must not only have knowledge, but also a framework of knowledge, methods, techniques, skills, etc. so as to proceed with the forming of relationships. Everything has to be learnt – physical skills, language, attitudes, habits, concepts, etc. – and this knowledge must be stored in such a way as to be readily available for use.

Neurophysiology has been able to demonstrate empirically that knowledge is stored intact in the brain. Because of the complexity of the brain's chemical and neurological functioning, this fact is of interest to empirical educationists since it provides mechanical evidence for various conditions for learning. Here the accent is on meaning, in the facts which are meaningfully consolidated are remembered. Apart from this, neurologists believe that only those activities (cognitive or otherwise) which received the learner's attention will be consolidated. Hence attention is regarded as a component of involvement, which underscores

its role as a prerequisite for experience and attribution of meaning. Man's cognitive totality is structured as meaning, but fully integrated with the motor and affective components of experience. The evidence moreover indicates that as a personal being man uses his brain to record experience so that it can be recalled for use later on. This is done psychologically, but it can also be effected mechanically by electrical stimulation of the cortex. As yet specific knowledge cannot be recalled in this way, but it serves to corroborate the phenomenon of consolidation. Mechanical memorisation and the forming of associations serve a purpose, but the accent is on meaningfulness achieved by involvement in the learning task.

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