**RECONSIDERATION OF PLAY
WITHIN THE DOMAIN OF EDUCATION**

by

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ABSTRACT

In this thesis the concept of play is examined to determine and characterise what is the concepts function and what people can mean when they talk about play. This is pursued in an attempt to clarify the concept of play and to argue that play has an important part in pedagogy as an educationally valuable activity.

It is argued that senses of play such as voluntariness, spontaneity, and intrinsic motivation, given in example by other authors are inadequate senses of play for education. Further, it is argued that distinctions which contrast play to the seriousness of work and include education as a category of play are also incorrect.

The thesis also points out that researchers have used play as a research vehicle to examine behaviours and that this vehicular sense does not justify claims of play being an essential function of the behaviour. However, it is argued that even without having an empirical base for justification of play within schools through delineation of the two senses of play within this thesis play is justifiably claimed to be a heuristic activity and therefore rightly at home in the bedrock thinking of children. Play it is argued is an activity through which we explore and experiment with our environment and our faculties. Play this thesis claims is the child's praxis upon the world.

Play in infanthood and childhood is argued to give us our most unadulterated evidence of how we use play to make sense of our world. It is in these life stages that we see the primordial contribution of play in human development and following logically, in our education. It is argued that play's contribution to individuals comes through our ability, in play, to structure and make sense out of the world. As schools are planned as institutions in which we come to know about the world, and as play lays foundations for thinking through exploration, discovery, and coming to know, it seems reasonable that play be welcomed in schooling. Play it is argued licenses us to postulate and is at home within the domain of education.

CHAPTER ONE

I INTRODUCTION

The kind of activity we call "play" is common and yet complex. It is ordinary and yet unique. It is public or private, spontaneous or planned. It is pleasurable, painful; or both. It is an overt and a covert activity. It can be frivolous and foolish or consequential and cunning. Jumping, throwing a stone, chasing someone, asking a question, or imitating another's speech or movement, can all be performed as play, but can also be non-play. We may observe someone running quickly down the sidewalk and at first glance conclude that the person is out to enjoy himself. The whole scenario changes if we see, behind the first runner, a second runner in pursuit. We may become alarmed, decide the first person is in danger-- that is until we notice the wide smile on his face. An inventory of play activities can be an inventory of non-play activities. Play is a polymorphous concept and like Proteus, it can change its shape endlessly.

Through various historical events and sociological processes within our society the meaning of play has been so often misconceived that our understanding of the concept is blurred in a dizzying blend of play's proposed origins, properties, and functions.

The meaning of play has, through cultural evolution, become so distorted as to become convoluted and misunderstood. This may seem to be an argumentative stance to take; for how can a concept like play, used to refer to an activity so simple that babes do it, also be so recalcitrant that ethnologists, psychologists, sociologists, philosophers, educators, lay people and even children, cannot agree upon what play is. Play it seems is easier to recognize than to define.

While I was reading the "play" literature in preparation for this thesis I came upon an attempt at defining play which may illustrate my point,

> ...play is designed for no end but its own enjoyment. Work... may consist of exactly the same activities as play, but it is engaged in not for the sake of pleasure, but for what may be gained as a result. A game is not necessarily play; and work is not necessarily work; but play is indeed play. (Lefrancois, 1977,261)

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While it may appear that Lefrancois is-- playing with words -- he, in fact, caught the essence of play; as we will see. In view of the fact that play is such an entangled concept and because the use of play has a questionable role in school curricula it would be worthwhile coming to a clearer understanding of what we mean by play.

Thus, in this thesis I will examine the concept of play to determine and characterise what is the concept's function and thus what people can mean when they talk about play. I will do this in an attempt to clarify our concept of play and argue that play has an important place in our pedagogy as an educationally valuable activity.

CHAPTER TWO

II SCHEMATIZATION OF THE CONCEPT

Play is notoriously difficult to define. Theorists, trying to provide comprehensive and direct accounts of play, have given inadequate accounts partly because they have attempted to define play as a behaviour or set of behaviours with common characteristics, but with features which set its forms apart from all other behaviours. Turning to the dictionary may only further confuse the matter. For example, the Random House dictionary lists fifty-three different meanings of the word 'play' and that without considering any idiomatic uses. My approach will be to establish several distinguishable paradigm uses of the word 'play', paradigms which must be considered in any effort to provide an adequate definition of the word. These paradigms are expressed in the various ways we commonly use the term 'play' and I look to such uses in the hope of contributing to a resolution of the question of the meaning of the concept.

The following I believe are clearly activities which can appropriately be called examples of 'play' and any definition which would exclude any of them would be at least incomplete:

1.   An infant in a crib repeatedly kicking at the mobile above its head or an infant watching the shadows of a tree move to and fro across the ceiling as the tree moves in the wind and moonlight.

2.   A toddler rolling a toy across the room.

3.   A child building a block city.

4.   A person doing a crossword, or jigsaw puzzle.

5.   Two or more people playing a game or sport.

6.   An individual playing a game or sport.

7.   Doodling.

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8. Putting on a performance for an audience.

9. Impersonation, in a moral sense, not for deception.

10. Chasing, or wrestling with another person in fun.

11. Painting, sculpting, or making crafts.

12. A person of any age considering the unfamiliar or the familiar in an unfettered manner.

This list is, I'm certain, not complete and certainly not exhaustive. Several observations nevertheless can be derived from it:

a. One can play something, or play with something (not necessarily a physical thing). This reflects at least two important features of forms of play. First, that play can be intentionally carried out, but need not be, and even when not carried out on purpose, can involve-- indeed often, perhaps typically involves-- the focussing of attention on some feature of the world.

b. Play cannot be simply a distinctly observable behaviour, since some of the examples (nos.2,5,6,8,9,) can involve almost any kind of behaviour. An alien could not pick out and identify "play behaviour" without knowing the participant's motivation. The concept of play, then, is subjectively grounded.

c. People of all ages play (nos.1,2,3,4) so play cannot simply be a child preparing for adult life.

d. Not all play is social, or competitive, or governed by rules (1,2,3,4,7 and 11 could go either way). Therefore; any definition of

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play must allow for such things as free exploration of the environment and experimentation with one's faculties.

e. Play can be an activity with or without specific aims (1,3,4,5,6,8,11, could be argued to have specific aims but the aim does not drive the play, the aim can be extrinsic to the movement involved in play). Play then may be unproductive but is not thereby pointless. And while play may serve functions, the functions need not serve to motivate play; play can be its own justification. In brief, in activities we call play there often is a marked lack of compulsion by other persons or social pressure. Play can be complete into and of itself. This element is, I believe, necessary and at least in certain circumstances sufficient to set play apart from other activities.

Firstly, by lack of compulsion I mean both internal and external compulsion. A person who has fallen over a cliff and is hanging by the limb which caught his fall is likely not able to play; he is too frightened. A person stranded in the middle of the Mojave desert with no more food or water is likely not able to play; he is too hungry and thirsty. A person held at knife point by kidnappers is not likely able to play. Physical or mental demands, it would seem, negate the freedom needed to play, the freedom to engage in play. This may explain why Frances Schiller, in <u>Letters on the Aesthetic Education of Man</u>, writes as he does of the relationship between play and freedom,

> Man plays only when he is in the full sense of the word a man, and he is only wholly man when he is playing. (1954,pp.74-80)

Secondly, some have observed that in play people seem to lose themselves, suspend, escape and transcend their worldly cares. Thus some argue that to understand play properly we should look at it when it seems first exhibited in human behaviour, in infancy. Infants exhibit the propensity we have for play. Indeed, some hold that infants in their innocence, when contrasted with many activities of most adults, reveal that as we grow up our natural propensity to play is gradually socialized out of

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us. Others hold that when as adults we seem carefree in play it is because then we are most naturally ourselves, as we were as infants. In play we are free to be.

It could be argued that such ideas are hopelessly romantic. For play is not always ideal. In play people are bullied and teased; play can include mean spiritedness and all manner of morally and socially negative behaviour and, in spite of what I have said about freedom, a child, when told to go and play by her mother, could still be said to play. I think we can come to see why, nonetheless, these can be instances of play. We can now see why the person being pushed into it can still be said to play. This is simply one instance of play which exemplifies the special focussing of attention noted in a., above. At the point that the conscription becomes compulsion, then the play behaviour ceases.

Thirdly, play happens within the midst of non-play. The concept of play only makes sense in a world where non-play also exists. As a result it often makes sense to say that while play is a part of reality, it has its own reality. Play can thus be complete into and of itself. The concept is part of a general conceptual frame for interacting with the world. We are sometimes free to enter activities which are part of the play aspect of this frame. A man could be an eloquent and profound professional public speaker. To his audience he is well-prepared, confident and convincing at his work. However, in order to relieve boredom he plays while speaking. To get into the play mode the man creates a mental picture of all the audience sitting there in their underwear. As he speaks he watches the men and women move, gesture, make asides and all the while he pictures these, motions of people in only underwear. He is pretending, and as such is in a play frame within a non-play context. The root word of "illusion" comes from the Latin in-lusio, which means "in play." Because what counts as play depends upon the mind set of the player play is elusive and can seem paradoxical. No one in the audience might know that the speaker is playing.

The fourth aspect of play, is that play can exist for its own sake and be complete unto itself. Play can be pursued for play. Even play that involves remuneration, like the play of a professional football player, is an activity the person initially chose and still engages in for the enjoyment, the challenge. The fact that someone has become good enough at it to also make it his work, need not deny the play element still fundamentally there within

the game. Unlike many jobs the undertaking has sufficient intrinsic interest to enable one to 'forget the outside world' and to have the intensity of focus which enables some activity to count as play. Indeed, professional athletes can succeed, in at least the higher levels, only if they are able to have that intensity, that suspension of focus from the serious. Even in situations then, where people play for a living, they are not always serious.

The same sort of argument could be given for the exploratory play of infants, or the investigative play that is pursued by people of all ages before they have fully organized, or integrated the unfamiliar. There can be serious consequences of play. Play does not occur in a void. However, the initiation of the activity may be simply for the gratification of the participant. The infant who plays does not know it is acquiring language, becoming socialized, developing muscle control or whatever myriad of psychological and physiological benefits are claimed to arise from play. The salient point of play is that even though it may serve other purposes it can be, in and of itself, phenomenologically complete.

Because play can be in itself phenomenologically complete there are certain ways in which play may be helpful in education. I turn now to an examination of this possibility.

I suggest that there is at least an analogy and perhaps an experiential link between:

x = the way(s) in which children and adults suspend practical concerns and focus intensively on local phenomena when they are attempting to interpret an experience or an event, when they are considering various hypotheses in an effort to understand what is before them. and

y = what babies do as they discover and come to know of the reality which surrounds them.

Parallels can be drawn between the highly focussed behaviour of infants at play and the concentration of children and adults in coming to an understanding. People in both x and y exhibit high levels of interest and often delight in their endeavours. In both x and y problem solving activities are undertaken as the adult or infant tries to make sense of an unknown.

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Evidence that x occurs can be gathered from the testimony of many clever adults and I will discuss this in greater detail. Evidence for y comes from the apparent actions of babies and from the infant research that has amassed and will be discussed in Chapter 4.

I will call x the creative sense of play and y the innocent sense of play. When I talk about 'play' in education I am referring to x. It is not implausible to hold that most or all adults could engage in x more than they do. I will argue that it is also not implausible that arranging things to increase the likelihood that they do so can have educational benefits for them.

Play is an activity which has, I believe, heuristic value and as such has defensible application in education. Before making this argument in greater detail I will examine historical perspectives on play within schooling and review empirical and philosophical literature on play.

CHAPTER THREE

III PLAY: AN HISTORICAL PERSPECTIVE

If the educational implications of the concept of play are to be understood it would be prudent to examine some historical perspectives on play vis-a-vis the school curriculum. This is in no way meant to be a thorough historical account. It is, rather, an overview of the more major conjunctions of societal events that, in historical reflection, have impacted on play's evolution within curricula.

Play as an educational enterprise has its roots in the period of the French Revolution. Jean Jacques Rousseau (1762), a French philosopher, wrote a book, Emile, which was a theoretical discourse expounding such ideas as treating a child as unique and respecting joyfulness and curiosity within the natural environment. He believed that play contributed to later development and that a child should be active in a natural environment where a tutor could follow the child and respond to the child's self-initiated questions and movements.

Rousseau initiated the idea of using a student's own inclinations to question, to act, and to explore, as a foundation for learning. He believed that students should be given no formal instruction but rather should learn by experience. He further believed that nature requires children to be children before they are men and that they should grow and develop untrammeled by the cares of the adult world.

Two disciples of Rousseau followed his theories and put them into practice in school settings. Johann Pestalozzi (1798) first operated a school for disadvantaged children on a farm. He later opened an orphanage and wrote two books about his methodology. He adopted Rousseau's view of the child as an active explorer of nature and prescribed a teaching methodology based on "sense impressions". Pestalozzi held that a child needed concrete, tactile experiences prior to abstract, symbolic experiences. He claimed we should use the subjects as instruments for learning rather than as content areas. His credo was, " do not impose--observe, perceive, learn." He believed that teachers should be loving, yet firm, and help extend knowledge for children by working from sense to abstraction.

Friedrich Froebel (1887) ,not only read Rousseau but worked with Pestalozzi. He went beyond the theories of both of his mentors and established an environment which was to become the first preschool in history, the Kindergarten. He created instructional materials for children which he called the "gifts." These objects, such as balls of yarn, cylinders, and cubes, were designed to be handled by the children in order to lead them step-by-step to an orderly sense of reality. He also proposed "occupations" (crafts) which he designed so that children would be more likely to creatively synthesize the "gifts."

Froebel was committed to play. He believed that through play the child would reach a balance in his development. He said, " the plays of childhood are the germinal leaves of all later life." Play was the essential centre of Froebelian theory and the teacher's role was to "put children in the way of learning" by providing the materials, organizing the environment, and encouraging the child to discover meaning in his objects. He wrote,

> Do not however tell him in words much more than he could find himself without your words. For it is, of course easier to hear the answer from another, perhaps to only half hear and understand it, than it is to seek and discover it himself...Do not, therefore, always answer your children's questions at once and directly; but as soon as they have gathered sufficient strength and experience, furnish them with the means to find the answers in the sphere of their own knowledge. (Froebel, 1887,pp.85-87)

The work of these three men established a foundation for a pedagogy of play that would become more widely established and endorsed. However, it wasn't until the nineteenth century that a large scale infusion of "play pedagogy" was seen in schools.

Ironically, in the pre-industrial era, life was largely composed of the "natural living" that Rousseau and others extolled as ideal for a child's learning. Learning took place at home through imitation and apprenticeship. Where communities did establish schools the school's curriculum was subservient to the "curriculum" of home. Play was viewed only as being useful if the children used imaginary play to begin to learn their destined role in life, e.g.. a mother, or a farmer (Lee, 1915). Around the turn of the twentieth century, biologist Karl Groos (1901) wrote a two

volume work on the play of animals and humans in which he argued that play was a "preparation for life." During this period, at the beginning of the twentieth century, several theories of play were espoused. However, two parallel views of the educative value of play were dominant. One, the Rousseauian vision that viewed concrete, sensory experience within a natural environment as the predecessor for abstract symbolic thinking. The other, and the prevailing cultural view, was that play was used to learn the roles of later life (Lee, 1915).

The Rousseauian view of play remained out of the mainstream of schools and had most impact in the private nursery schools of Europe and on the growing Montessori movement. The impact of the social role view, however, was seen in the primers of the era. A first reader published in 1902 lists the activities a boy may do (Picken 1901,p.74). These include swimming, fishing, driving the pony cart, reading books, and playing marbles. Girls, on the other hand, pet kittens, take baby for a ride, run with the puppy, and tell father they have been good. Boys toys include balls, bats, drums, marbles, tin soldiers, a blackboard, and toy trains. Girls own hoops, dolls, doll beds, doll houses, and jump ropes.

The children in the reader are depicted in imitation of then ,standard adult activities. Children plant seeds in their own small spaces in the family garden. Girls wash doll clothing, clean playhouses, and make mud pies; boys play soldier, and fireman.

In the practices of the school there was no time for student self-initiated activities. And little consideration was given to how children learn and play, let alone consideration for the inclusion of play in a school curriculum.

However, the beliefs and practices of the largely agrarian society was to abruptly change as industrial development increased. The child's role in society was about to be redefined. To this point in history the child was viewed as an immature adult who had to be taught and molded to be less childlike, less impulsive and active. Children were expected to become what their parents had been. In an industrial society, these views and expectations were no longer sufficient.

Schools became increasingly viewed as places to prepare children to find their place in this industrial order and to contribute to the existing society. The application of industrial bureaucracy, specialization, and

engineering was readily transferred to schools. The writing of Ellwood Cubberly on curriculum reveals this emphasis,

> Our schools are, in a sense, factories in which the raw products (children) are to be shaped and fashioned into products to meet the various demands of life. The specifications for manufacturing come from the demands of twentieth century civilization, and it is the business of the school to build its pupils according to the specifications laid down.This demands good tools, specialized machinery, continuous measurement of production to speci fications, the elimination of waste in manufacture, and a large variety of the output. (Cubberly,1916,p.338)

The most influential spokesman of school engineering was an American, Franklin Bobbitt (1918) who derived his principles of curriculum from the industrial management work of Frederick Taylor (1911). Teachers were to be trained according to scientific principles of instruction with standardized objectives, lesson plans, and methods of evaluation.

Social behaviours were to be studied through "scientific" principles in order to find more efficient educational practices. Curriculum was to be focused on those subjects which made man more productive. Since play was not regarded as productive, it was considered to be frivolous, and was not to be included in the school curriculum.

Also, at the turn of the century, immigrants flowing into the United States brought with them new worlds of varying cultures, experiences, ideas, and languages. The view of play as an imitation of adult life just didn't seem to suit the new needs of immigrants and their children in the schools. Immigrants didn't want their children to imitate their previous or current lives. They had come to America so that their children would have the chance of a better life. Schools were expected to enculturate new generations of Americans. It was at this juncture that play once again became important in the schools for it was seen as a way in which children could be "Americanized" (Lee, 1915).

Schools then were given the responsibility for the whole child, to enculturate them as well as ensure their social, vocational and academic development. At the same time, a new interest was developing in science and topics to be studied scientifically. Children's development was such a topic. The movement to study the intellectual, social, and physical growth of

children was headed in the United States by G.Stanley Hall and imitated elsewhere. The life phase of childhood as having attributes distinct from adulthood now became a focus of attention and study (Cremin, 1964).

This was an era of contradiction. Science was being used to serve schools as the basic source to engineer an efficient, stripped down curriculum. Schools came to be viewed by some as though they were factories; the teachers became the operatives and the children the raw material to be processed. Science too was being used to study children as distinct from adults and the work of Hall, Terman, and Gessell was suggesting that children might not best be served by a factory model of schooling (Cremin, 1964).

A mélange of science, child study, industrialization, and immigration caused a swell of discontent and conflict within the educational community. Out of this conflict arose the progressive era of education.

Lawrence Cremin (1964) writes of the growth during this time of humanistic efforts to use schools to improve the lives of individuals. He noted that the movement was marked from the very beginning by a pluralistic, frequently contradictory, character. The conflicting forces upon the education system broke the restricted view of the purpose of school. Schools were now viewed as the lever for changing and improving society.

John Dewey, an educator, psychologist, and philosopher, became identified with this era of progressive education. His theory of progressivism proposed a new look at children, learning, and teaching. Dewey viewed man as an active agent of his own learning and not simply a cog in a machine. With his writings, a newly activated emphasis on man, previously espoused by Rousseau, opened the gates for the use of exploration, inquiry, problem solving, and creativity as components of a school curriculum. Alternative schools experimented with ways to promote student enjoyment and student choice. Play schools and organic schools, based on Deweyian and Rousseauian visions, capitalized on play and student initiative to lead to expanded studies. Pratt and Johnson, organizers of progressive schools, believed that play was the medium for all meaningful and lasting learning (Dewey and Dewey, 1915).

Freudian psychology, with its belief that childhood suppression can lead to adult neurosis, and its view of play as an expression of man's

primary needs, gave added credence to the notions of the progressive educators. Play now had many supporters and activities which were enjoyable for children, such as role playing, games, and field trips, became essential parts of curriculum. Play was now appropriate in a newly expanded view of schooling.

By the 1930's activity and "child-centered" schools were solidly established in pre-schools, university laboratory schools, and many school districts. Students were encouraged to initiate learning and active, pleasurable learning became engrained in popular and professional thinking about what should exist in schools. The studies of children by people such as Arnold Gessell (1928) and the psychology of Freud (1935) supported curriculum built around the child. The bureaucratic, factory model of schooling still held but pleasure and activity within such a model was widely encouraged and fashionable.

However, according to Cremin, by the 1950's the incorporation of play opportunities in the school began to diminish. Society had become more conservative following World War II and progressive education was attacked as being permissive and lacking intellectual rigor. A curriculum of traditional subjects and teacher directed instruction returned. To allow students to interact, to laugh, and to play was no longer appropriate in an era of cold war tactics. Further, the Russians were the first to launch a successful satellite and this was viewed as revealing the failure of the American school system to produce strong scientists and mathematicians.

Funds were provided for curriculum laboratories to establish improved learning within schools. However, the cognitive studies of Jean Piaget of the Geneva Institute and Jerome Bruner of the Institute for Cognitive Studies at Harvard, which had previously gone unheeded, now gained recognition. These researchers documented the crucial role of early childhood experiences for later learning. Practitioners would later translate such research into programmes in which they claimed the natural vehicle for learning in early childhood was a child's play.

Furthermore, Piaget's and Bruner's research implied that learning was developmental and that activity was important for older as well as younger students. This research eventually influenced the subject centered schools of the 1950's and play once again emerged as a curricular influence

in the informal, activity centered, open schools of the late 60's and 70's (Manchester, 1973).

Activity based, inquiry centered curricula were developed in almost all subjects. Curricular materials were developed and teachers were trained in the "new math", and "inquiry science" in schools that were once again seen as child centered. Smilansky (1968) documented play as both developmental and related to academic achievement. Her work was based on that of the child study researchers and the cognivist researchers and moved play ahead as an important area of study. The ongoing research of Piaget (1971), Sutton-Smith (1967), Anna Freud (1971), Jerome Singer (1971), and Jerome Bruner (1977) lent stature to promoting play in schools. The 60's were a revolutionary time and in this period alternative schools were established which capitalized on activism in the curriculum. The use of play could be readily defended by appealing to respected international authorities. Play was justified as essential for learning and students were viewed as having the right to question, to move, and to make choices.

In the late 70's and early 80's societal concerns and declining student achievement scores brought, in the U.S.A., a conservative "back to basics" movement to the schools. Play was the first victim as direct instruction became the banner of education planners and this is largely where we are today. Activity centered curricula are rare beyond the Kindergarten and certain individual primary classrooms, but current research is validating the need for a new era of school reform (Graves 1983,Harste 1984,Calkins 1986). As research continues on play the findings consistently argue for the importance of play to present and future achievement. Play it is believed is crucial to development academically, cognitively, linguistically, socially, physically, and aesthetically. By comparing pre and post-average play programme percentile scores, Pelligrini (1980) and Yawkey (1978) have found significant correlational relations between students abilities to play with achievement on school readiness tests. Not only are researchers making more specific claims about the relation of play and school achievement, but those who study physiological and neurological development of the brain also claim to show that play develops areas of the brain that increase the potential for new manners of learning (Tipps,1981). The empirical base for the return of play into the curriculum is growing and may foreshadow its application in a school movement of the late 80's

and 1990's.If historical patterns repeat then the return of play in curriculum awaits only a turn in the perceived needs and concerns of society.

Through this overview of the curricular role of play I hope it has become evident that play has been an important concept for consideration by educators. However, even if all educators would come to a consensus that play is an important concept we would yet have the philosophical task of determining what criteria we use to decide that some activity is properly called "play". Before turning to the philosophical literature on play let me briefly survey the ideas of current writers on play.

CHAPTER FOUR

IV THE CONCEPT OF PLAY
A. REVIEW OF THE RESEARCH LITERATURE

We think we know what play is. We think we know because we can see play. We can point to someone at play and observe that the person is playing. However, when we reflect on play, when we ask how do we know that the person is playing, we run into difficulty. As we will see many people have written about play. Yet none has given us a clear account of what is to count as play.

Researchers have been looking at play and asking "What is it?" for decades. They have been studying the developmental significance of play in all its parameters in order to come to a greater understanding of its import. Piaget (1951), delineated three major types of play related to cognitive development. He named them: practice, symbolic, and games with rules. He characterized practice play as repeated motor behaviours without any apparent planned outcomes (i.e., a child repeatedly jumps over a crack in the sidewalk for the sheer joy of the activity,etc.). Symbolic play, Piaget believed, is the process of transforming an object or oneself into another person, object, event, or situation through the use of motor or verbal actions in a make-believe activity (i.e., a block becomes a telephone). Games he determined have prearranged rules that children must adopt and accept (i.e., tag, monopoly,etc.).

Piaget's theoretical and empirical evidence supports the notion that engaging in play can facilitate children's cognitive growth. Piaget discussed the importance of play as the vehicle through which children develop new and better cognitive skills. Play, he said, is assimilation, the process of taking information from the environment and incorporating it into what we already know.

Garvey (1977) categorized play into five major areas (motion, objects, language, social materials, and games with rules) and focused on the use of materials and resources in each category. Based on the idea that children use materials in new and different ways as they develop, she explored the way children used the same materials in relation to each category of play.

Based on the work of Piaget, Yawkey (1977) suggests that play is interrelated with thinking abilities and intellectual development and is a dynamic process in its own right. He believes play's link to intellectual development is through the elements of transformation (the intellectual ability to change oneself into some object, person, or situation) and language (the intellectual capacity to communicate in ways that permit understanding). Yawkey determined that play exercises the intellect because children think and act as if they are another person, thing, or situation.

Isenberg (1984) believes he found that during play children combine and practice experiences that they have already assimilated. They also use and rehearse new skills by putting together ideas in new ways to fit the play situation where they lack knowledge. Children learn new concepts from peers and show this new understanding in spontaneous and guided play. Isenberg believes that learning skills and acquiring concepts in peer groups are intellectual functions and products of play. Isenberg demonstrated that the language use in play offers children opportunities to share and communicate thoughts through the roles they assume.

Lieberman (1977) rated the play of kindergarten children as it relates to divergent thinking. Her scale included five personality traits: physical, cognitive, social spontaneity, manifest joy, and sense of humour. Results indicated a significant relationship between children's playfulness scores and aspects of divergent thinking.

Sylva, Bruner, and Genova (1976) studied the effects of play on young children's problem-solving behaviour in five different groups. They noted that children who were allowed to use free play with specific materials exhibited more problem solving ability than the other four treatment groups. In addition, they demonstrated more goal directed behaviour and greater persistence.

Garvey (1977) held that peer play aids children's acquisition of communicative and social interactive skills, (i.e., access rituals, topic development and maintenance, turn taking, status, role norms, friendship, positive justice, etc.).

Corsaro (1981) working ethnographically, entered into the child's world of socialization and determined that what may appear as trivial and

"child's play", from the adult's perspective, is often a complex learning experience for the child.

Pelligrini and Galdi (1982) studied the effects of play on the development of children's story comprehension. Of the three groups of children studied, the fantasy trained group, who verbally reconstructed stories through peer interaction, were most successful in understanding and retelling stories and better able to answer subjective questions about the story.

Geller (1982) studied children's language acquisition through play and found that the fundamental aspects of language development are acquired through play. Children explore systems of sound sense, and syntax in play to clarify and confirm for themselves basic principles which govern how words work.

Tipps (1980) argues he has shown a relationship between play and the brain. He claims that play has a positive emotional quality which enhances experiential exploration and neural alertness to the environment. Exploration he believes, results in neurological growth and provides structures for more complex play behaviours. Further, he notes that play development parallels cognitive changes and brain maturation and reflects more symbolic and deferred ideation. Play, he proposes, is the process by which the brain creates new solutions.

Some researchers have believed that by observing children's play they could learn how to develop programmes and curricula to best meet children's developmental needs. Some educators use this research data to support their claims that present teacher agendas and ideologies result in inappropriate and deficient experiences for children because the educators fail to take note of the role they believe researchers have shown play to hold in a wide diversity of intellectual and social attainments. Play advocates believe it is better to focus on the process in play than on the production of artifacts in work oriented classrooms. Further, they hold that children's work/play should not be dichotomized; it should be understood as a dialectical activity.

It seems to me that play has become a vehicle for research observations. Researchers, rather than showing, as they appear to think they are doing, that play is an agent of development, show only, for example, how a child performs or may be expected to perform, in a given

situation which they call "play". We still do not know how, or if, there is any factor which could be called "play" and which had impact on development. Using play as a vehicle to examine behaviour does not justify claims that play is an essential factor in development.

Consider an illustration of what I mean. There are many individual functions inherent in the making of a magazine. The writing of the articles, typing of the copy, photography and layout of the photography, advertisements; phoned or written in and then organized into the copy, the design and choosing of the cover, the editorial, letters to the editor; written by others, yet read and chosen for specific placement in a particular issue. Moreover, there are the functions of the actual printing process of the magazine which entails such things as :printing, folding, stapling, packaging, distribution, and delivery. There is the display, selling, buying and finally, reading of the magazine by the consumer, at which point the magazine may have yet another function, that of being read. This function may in turn help to educate, or at very least edify, entertain, or amuse the reader. Beyond these functions there is yet to consider all of the singular functions in the recycling of the magazine back to raw pulp, at which point a new series of functions begins.

My point in detailing each of these particular individual functions in the making of a magazine is for you, now, to stop and consider whether any one of the individual functions points to what a magazine is.

Each one particular function may be absolutely necessary to the building of a magazine but none, examined individually, is sufficient to inform us about what in fact a magazine is. The functions point to aspects of production and use but do not determine what a magazine is.

I now return to the vehicular use of play by researchers. Let us consider one function of play purported by many researchers to be crucial in the optimal development of a child. Let's take the position that the child's social ability and social interaction are reflected in the child's play; that the development of successful social interactions is a function of play.

By observing children at play researchers can make assumptions about their social interactions. Play becomes the vehicle through which the researcher examines socialization. However, there is no indication that play is the vehicle for the development of the social skill. The focus of research has tended to be on play as a vehicle for research observations

rather than on play as the agent for growth in x -- in this example, social interaction. If play can in fact improve social interaction, and it may be very likely that it can, then studies would need to show play as a research treatment which indicates social growth for the treatment group but not for the control group. Play behaviours and social behaviours would need to be sequentially analyzed to determine dependence between play and socialization. The same would be the case for any claim made on a function of play.

Merely observing and stating that play has an essential function in development hardly makes the case. Nor is the case made for a more reasonable claim that play is useful in development, that it is an enjoyable and a readily encouraged activity that provides x -- social experience in my example. Play experiences may in fact be requirements for developmental growth of many kinds. However, one cannot base this belief on assumption alone. Researchers cannot but fail to enable us to tell what effects play can have because they do not have a clear conception of play.

To discover if philosophers have been more successful in illuminating the meaning of play I turn now to the analysis of play in the philosophical literature.

B. REVIEW OF THE PHILOSOPHICAL LITERATURE

Within the numerous books and articles in the philosophical literature about play it becomes apparent that many authors find common elements or ideas regarding play. These common elements seem to point to the essential characteristics of play. Without any one, or a combination of these characteristics, there is no play. Further, even when all of these characteristics are combined there is no guarantee that the activity containing the characteristics is actually play.

Play is commonly thought to be identifiable on the basis of one or more of three characteristics: 1. that it is spontaneous, (Mead 1896, Dearden 1968, Huizinga 1938), 2. that it is voluntary, (Dewey 1916, Riezler 1941, Huizinga 1938), and 3. that it is desirable for its own sake, (Mead 1896, Dewey 1916, Huizinga 1938). Let's consider each of these features.

Firstly, voluntariness. Let us suppose that during a soccer game the coach decides that, in order to give his first string forward a rest, he will send in one of his second string players who, until this point in the game, has been sitting on the bench. Could you now say of this second string player that because he has been conscripted into play by the coach that he is not really playing the soccer game. That is unreasonable and unarguable. Or what of a mother who, realizing that dinner will be yet another twenty minutes in preparation, asks her youngster to "go and play with your Lego until dinner is ready." This play is not voluntary; however it may still take place. Voluntariness then does not seem a necessary characteristic of play. I do understand the sense of play that these authors were trying to capture and it does seem to be that the more dimensions of an activity to come directly under the child's control, the greater the likelihood that the activity would be considered play.

Secondly, consider spontaneity. A group of children sitting on the front steps of one of the children's homes suddenly scatters as they realize that curfew time has come and they will all have to go to their own homes for the night. As they walk away from each other one of them calls out "Anne, Sandra, come to my house after Family Double Dare tomorrow morning and we'll play Barbies." Does this planning of a play activity negate that it is indeed play? I think not.

Thirdly, let us consider desirability for its own sake, which many authors have attributed to play. This seems to be a good example of begging the question. To suggest that an activity is intrinsically motivated, without establishing the motivation, is to claim that because there is a behaviour there must be a motive which causes the behaviour. Saying play is intrinsically motivated, begs the question and leaves undetermined how play is motivated and, further, whether there is a common motive for all intrinsically satisfying behaviours, or a particular motive for each behaviour. The question remains to be answered, "What is intrinsically motivating about play activities ?"

It seems to me that what is problematic about all of these characteristics, determined by many to be necessary, if not sufficient, is that these purported play characteristics are not public. They are not characteristics independent of the views of the players themselves. They are features of personal attitude, originating within the player. If the play characteristic alters or ends it is because the player has changed.

On this sort of account play is subjectively at home within the player and is characterized in attitudes of spontaneity and voluntariness and, further, these values of spontaneity and voluntariness may in fact be the motivators for the play.

I turn now to more specific criticism of the writings of two philosophers on the subject of play: Kingsley Price and R.F.Dearden.

Since he wrote it in 1968, R.F.Dearden's analysis of the concept of play has become a basic reference for educators. In twenty years few have challenged Dearden's view of play. For the most part I, too, agree that Dearden has it mostly right. However, there is an area of his analysis that I challenge; his treatment of "common prudence" and the "serious." Dearden distinguishes between play and "the serious" when he writes,

> If we consider the activities which make up by far the largest part of adult life, the typical activities of adults that is to say, then a word which aptly characterises them is "serious"... seriously purposeful activities make up the main business of ordinary living. ...Play is neither the pursuit of purposes dictated by
>   common prudence, nor is it the fulfilling an obligation to someone. (1968,pp.80-81)

Dearden has it essentially right but states it too narrowly and, therefore, with too much ambiguity. One of Dearden's criteria is that the serious is a pursuit dictated by common prudence. The empirical evidence on play and its influence upon a child's development (to which I have drawn attention) that has advanced since Dearden wrote his analysis, may make it the case that children at play are in the pursuit of attainments, the neglect of which would not be in the interest of one interpretation of "common prudence." Confusion then arises to the interpretation of 'play' as Dearden neglects to clarify his meaning of common prudence and leaves us wondering if by being commonly prudent he means:

a. actually being prudent
b. intending prudence

In my view we presuppose the principle that babies can only play. By presupposing this principle we hold that babies cannot 'intend prudence' or hold 'serious' intentions such as those held some of the time by adults. We might even say that , in concept, B would not count as a baby if B could have serious intentions. Play then, it would seem, has a different meaning when applied to babies because we assume that they cannot do anything else. Adults, on the other hand, can play or not-play. However, play can mean the same for babies and adults in that they are both engaging in activities for no purpose external to the activity. Moreover, confusing the issue further is the polymorphous nature of play. That is to say -- virtually any action can be play or part of play. But all can be carried out and not be, or be part of, play.

Consider a case in which a writer writes for his livelihood. In the course of his purposeful activity he plays with ideas and with words, changing them, moving them, experimenting with new or unusual combinations. Perhaps he is a fiction writer who, in order to make his characters "come alive", assumes their roles and acts out portions of the plot and/or the dialogue. The overall task to which he is engaged is serious by Dearden's definition and in his definition Dearden makes a good point. To play is not to be serious. However, the writers purposeful pursuit encompasses an element of play. This leads me to proffer the hypothesis that it is the case that, at least some of the time, in order to be successful at

the serious one must be able to play. Huizinga clarified this notion when he wrote,

> The play concept as such is of a higher order than is seriousness. For seriousness seeks to exclude play, whereas play can very well include seriousness. (1949,P.45)

This appears to be particularly important in circumstances where people are trying to find original solutions to a complex problem. What may be essential in such circumstances is an ability or inclination to "turn off" the serious world and let the mind "play"--that is-- to let the mind become engrossed in the problem in and of itself without considerations of positive serious results. Andrew Meltzoff (1977) demonstrated that babies could match mouth movements to the sounds they hear. Infants were shown films of faces saying, "ahh" and "eee". A loudspeaker that would make either sound was then placed between screens that would flash an "ahh" face or an "eee" face. The babies always looked at the picture on the screen that matched the sound being broadcast. They showed an appreciation of action to bring about a satisfactory outcome and yet they had no serious intent, unless we radically revise our assumptions about childhood and what babies do. For, as I have pointed out, with adults we distinguish between circumstances when they do things to meet or face duties, whereas for babies no such category exists. We are thus inclined to say that play is the medium through which infants interact with their environment and get to their goals. (I will return to a more detailed account of this infant research later in this thesis for I believe it points most clearly to factors in play which have until now been overlooked).

For now, however, the question is how one could go from the claim that babies hold no 'serious' intention and yet they seem to learn very well, and relatively speaking, at enormous speed, a diverse range of things and that they do so during "play", for that is all we presuppose that babies do; as well as go from my second claim that older children and adults can play or not-play to my hypothesis that, if we can get older children and adults to act the way we suppose babies act at play , without 'serious intentions' and with remarkable concentration, then children and adults may learn faster and be more creative. Thus the hypothesis becomes:

It is worthwhile doing research into the possibility that students will, in the long run, be more successful in their work and/or learning what they want and/or in producing original ideas if, as part of their being engaged in a school programme, they engage in activities in ways that we believe are similar to the ways in which babies 'engage' the world.

Dearden's distinction between play and the serious sheds important light on play's meaning. We need ,however, to see play in a fuller context to realize its importance in schools. Play advocates conducting empirical research use 'play' in arbitrary and variable ways in their language because they fail to realize that for babies their world does not include non-play. Play is what babies do. They have no purposeful intent. I discuss this in greater detail in the next chapter of this thesis. This means that with the empirical research we cannot tell whether or not it supports or fails to support the hypothesis offered here. Assertion of a series of claims about the potential significance of play without the specifications of what is to count as play cannot support the claims of the play advocates.

C. REVIEW OF THE BABY MINDS LITERATURE

What do babies know and how do they come to make sense of the world so that they can function in it? We all know that babies cry when they're hungry or wet, sleep a lot and pollute the air with their dirty diapers. But do they understand anything? They look helpless, but are they? Infancy, from the Latin meaning "without language", is difficult to study because infants can't explain what they are doing or tell us what they are thinking. Because of this people have believed that babies experienced the world as a confusing blur. John Locke can be attributed with the observation that the infant's mind was a tabula rasa, or blank tablet, waiting to be written upon. William James in <u>The Principles of Psychology</u> (1891) wrote that the infant views the world, "as one great blooming, buzzing confusion." However, in the past twelve years researchers studying infant behaviour have discovered that babies do have minds and are cognitive beings capable of mental operations. Modern research tools, and methods are now sophisticated enough to examine the subtle abilities of infants and to interpret their complex behaviours. High speed computers can do complex data analysis in minutes and hours. Video tape makes it possible to study and restudy elusive behaviours and verbalizations. Technology now makes it possible to monitor respiration, heart rate, body movement, visual fixation, and sucking behavior, all of which give clues as to what is going on inside of the infant. Infra-red cameras have shown that even when the lights are turned out infants eyes are open wide carrying out investigative exploration of its surroundings.

A large body of research has now demonstrated that infants can learn and remember. Tiffany Field (1987) in an experiment with three day old infants found they were able to recognize and discriminate between facial expressions. When the expression was shown to the infant for the first time it would stare at it with interest, however if the same expression was presented repeatedly the infant would look less each time. This is called "habituation" and is considered a primary indication of brain and nervous system functioning: learning.

Andrew Meltzoff (1977) a researcher at the University of Washington showed that babies as young as 42 minutes could imitate adults. If an adult stuck its tongue out at the baby, the baby would mimic. Meltzoff and Moore

(1977) demonstrated that if a pacifier in the babies mouth prevented the infant from imitating the adult, it would remember what it wanted to do until the pacifier was removed, then the baby would promptly stick out its tongue. The ability to imitate a human face means that infants play a very active role in structuring their world right from the start. By playing with facial expressions infants can use imitation as an effective channel for early learning and communication.

Meltzoff's experiment shows that babies can handle two different perceptual activities at once: vision and muscular action. It is not stretching the concept to say that they were thinking. Meltzoff was also responsible for the research I mentioned earlier in this thesis, which shows infants can differentiate and match sounds and as they play with language they are learning how to use the language rules.

Robert Cooper (1983), a psychologist at Southwest Texas State University, tested a group of 10-12 month old toddlers and found that they could tell the difference between prints of different numerals. By showing the infants various groups of objects they were able to demonstrate that the babies knew the difference between 3 and 4 as well as 3 and 5. Cooper found they had difficulty recognizing numerals beyond 5!

I could go on relating the active role infants are now seen as having in structuring their world right from birth. Their perceptual, cognitive, and social abilities are amazing scientists world wide. The implications of this research challenge some of our standard beliefs on how children should be reared and how they should be educated. And, no doubt, as parents know more of what to expect from their infants and foster, for example, their communicative skills, the infants will likely respond and currently held "standards" for infanthood will change. Our expectations govern our responses and our responses govern how others will react to us. As educators we cannot remain ignorant of the significance of these findings. Infants are not instructed, they appear to have no language, yet they are able to find cohesion in sights and sounds of the reality that surrounds them and crystallize their experiences. It is hard to deny that babies show a powerful capacity to concentrate and learn, and appear to do so as individuals. There is, of course, another side to the story. As Ernest Schachtel so aptly puts it,

During this development he explores, in the playful encounters of childhood, an expanding environment and an increasing variety of object aspects in exercising his growing sensory-motor capacity. While part of this exploration takes place in the spontaneous and immediate encounter with the objects, an important part consists in the increasing acquaintance with their meaning in culture. Such learning on the one hand enriches the object world of the growing child to a degree which could never be reached by an isolated individual. On the other hand, it also supplants the child's original approach to the objects, and, especially in our time entails the danger of closing his openness toward the world and of reducing all experiences to the perception of such preformed cliches and angles as make up the world of "reality" seen by the family, peer group, and society in which he grows up. (1959,pp.237-238)

In the early activities of intense immersion which we interpret as play it seems babies engage their minds with manipulation of their world.

But notice what has and what hasn't been shown. Babies do act as individuals; babies do appear to have intentions and powerful capacities to learn; they can gradually acquire social distinctions. But there is nothing in this literature to deny what Dearden says:

A baby who has not yet learned to conceive of his real situation could not properly be said to play...Play is to be contrasted with, and presupposes, the serious and the real, so that a child can properly be said to play only in proportion as he becomes aware of these. (1968,pp.81-82)

Why, then, do people call what babies do "play"? It appears they do so because what babies often do is reveal one or all of the features of play explicated earlier. But what Dearden shows is that this is either an extended or slightly odd use of 'play' because we do not, in the concepts we use to characterize what babies do, allow them to do anything other than play. Thus claims about the efficacy of play are conceptually suspect. If all that babies can do (or are allowed by the concepts we apply to them) is play then every long term result, good or bad, must be attributed to play.

This shows that we must be cautious about claims we make about the efficacy of play as a learning mode and clear about what we mean when we make and try to defend such claims. The apparent fact that babies learn extremely complex things with relative ease while 'playing' cannot tell us

that the "same" will be true of adults or children in school. The closest we can get to an intelligible claim is something like the following:

1. Babies seem to display to a high degree abilities to focus on and learn from things in their world.

2. Very bright adults display similar abilities to "lose themselves" in thought and having done so, to find ideas and or learn ideas in ways that are superior to other ways.

3. If we can create conditions in school where students are likely to lose themselves in the way (or ways) that babies and some adults do, those students may well be better able to learn.

The flow of learning from experience to concept may be logically discontinuous but likely is linked through mental play. In an interview with writer Vera John-Steiner, physicist John Howarth told about the playful way he comes up with new ideas and understandings in his scientific thinking,

> My natural mode of thought leads me to play with these images. I get inside them and wander about without any specific aim. Now I am looking at the wires and cards, the elements in the image. Only my visual sense is involved. I am not directing my attention, just watching what appears. The elements are taking on nonessential, or apparently non-essential qualities like color. This kind of thing often leads to productive insights. (John-Steiner,1985,p.182.)

Play may be a valuable learning activity which can help prepare us for conditions in which many of the circumstances are not yet defined. Preparation for the unknown may be the very reason that children should be encouraged to play. I have established this sense of play in the second chapter of this thesis and I will return to more on this theme in the conclusion of this thesis. For now however I turn to Kingsley-Price's view of play.

Price in his article,"On Education as a Species of Play", sets as his task determining why education should not be located within the category of

play. My first reaction to the title of Price's article brought to mind what my grandmother often told me," Well there's one thing for certain Naomi, you won't catch a salmon if you're fishing in a trout pond." I believe her motive in telling me this old saw was related to matrimony. However, Price could have used her advice before he began his analysis of play and its relationship to education. But then, to begin with, Price's problem is that he doesn't seem to know, or at least within the framework of this article did not adequately define, what a (salmon) --education is.

Surely, even though Price failed to define some of the terms of his discourse, there would not be many who would argue with Price's assumption that education is not a member of the class, play. In any event, I agree with Price that education is not a species of play. Instead, I will try and show that it is possible to consider that play may be defensible as a species of education. This is the reverse of Price's argument.

R.S.Peters is a widely accepted reference for a defensible and appropriate account of education. In his work, "What Is An Educational Process?", Peters outlines criteria for processes of education which will lead to the 'educated man'. These processes are,according to Peters,

> ...approximate to tasks in which the learner knows what he is doing and gradually develops towards those standards of excellence which constitute the relevant achievement. In this family obviously are included processes such as training, instruction, learning by experience, teaching, and so on. (p.9)

Play could most certainly be considered as appropriate under the process of learning by experience. There are those who would argue that play will but lead to accidental learnings, if any. However, such arguments are put forth by people who simply do not understand how play can be used by teachers as a method for "putting the learner in a position where his experience is likely to become structured along desirable lines",(Peters,p.9).

For example, currently in British Columbia and elsewhere in North America, there is a programme for the study of Mathematics called, Math Their Way. The philosophy behind the Math Their Way Programme is, firstly, to give children open ended "free explorations", which are basically 'free play' activities with concrete materials such as pattern blocks, unifix cubes, geoboards, attribute blocks etc. From the 'free exploration' phase the

children move on to the 'connecting phase', in which, they begin to use the materials they have previously played with freely, in more teacher directed play activities, to build an experiential bridge towards the final stage of mathematics, the 'symbolic'. In the 'symbolic' stage children no longer need to rely on concrete materials because they have internalized the mathematical concepts through free play as well as teacher guided and directed play activities. It is at the symbolic level that we, as adults, function both in language and mathematics. Math Their Way and its application for the older grades, Math A Way Of Thinking, are examples of programmes designed for mathematical learning which is playfully attained. It is a methodology adopted to give children the chance to absorb, at a young age, specific stimulation through exploration; enabling them to collect data for the developing conceptual schema in their minds, so that they can draw on, or build upon, these conceptual maps later in their childhood, or later in their adult lives.

Vera John-Steiner gives dozens of examples in her book, Notebooks Of The Mind, which illustrate how the early play experiences of intellectually productive individuals helped shape their novel and useful adult work. In all, John-Steiner interviewed over fifty men and women prominent in the humanities, arts and sciences. She also drew upon the letters, diaries, and autobiographies of other famous people such as Albert Einstein , Leo Tolstoy, and Mozart. Of their endeavours she writes,

> New work is born out of the playfulness of the young, and the freshness of perception that does not wilt after childhood. The process of growth from exploration to the actual construction of a body of work is prolonged, and it entails manifold links between the childish and the most disciplined and purposeful efforts of which human beings are capable. (p.45)

It may be the case that play is inherently educative, not only as a means to educative growth, as outlined in the research literature, but as an educative experience in itself. However, until that may be proven in studies of play, designed as I outlined in the section of this thesis called Critique Of The Research Literature, it is sufficient to claim play as a potential process of education using Peter's criteria for learning by experience. Of this he writes,

A wise teacher will therefore be thoroughly cognizant of the stage of conceptual development which each child has reached. She will often take the children out of the classroom where the children can be confronted with the relevant experiences and will fill the classroom itself with things which are carefully related to these stages of conceptual development. She will be at hand always when the child's natural curiosity impels him to ask questions which are almost inevitable, given the confrontation between intriguing objects and a conceptual scheme which is ripe for the next increment. In this way there can be no danger of knowledge being inert. For what is learnt is always what the child is ready to absorb and eager to discover. In this way information from adults and from books can be built firmly into the developing cognitive structure of the child in relation to his firsthand experience. (p.16-17)

So it is that a programme of studies such as Math Their Way, built on a foundation of play and play activities, becomes a curricular model for the process of education Peters advocates in his criteria for learning by experience.

Later in his discourse while speaking of, "Conversation and 'the whole man', Peters goes on to state,

But it (conversation) is a learning situation of an informal sort. A vast amount of learning all through life takes place in such informal situations. Are we losing faith in the likelihood of anything emerging if it is not carefully contrived? (p.21)

Play is a lot like conversation in that it is an open-ended way of interfacing or interacting. The content of play, like conversation, is sometimes immaterial. The content may be trivial, or it may be momentous. The two notions, conversation and play, can both be activities of association for their own sake and play can also be used as a state of free exploration, or as a guided teaching strategy, as I have just argued.

It is precisely in this sense also, that play fits in very nicely as an educational process. For the plasticity of play allows it to be used in a freely exploratory state where the exploration, investigation, and manipulation of the environment leads to increased knowledge of the conditions and consequences of that environment. Or it can be used as a teaching strategy where children are guided by the teacher in an informal learning situation. Here the active participation of the children's play reverses the thrust of

what has been common in schools since the industrial era, the dispensing of knowledge by an authority (the teacher and/or the text). In so doing the locus of control in the learning is squarely shouldered where it belongs, with the child. For a child who takes responsibility for his own learning is more likely to become an active, independent, self-reliant learner rather than a passive recipient of information.

I have tried to argue that, although education is not properly categorized as a species of play, the converse is true; that play is more accurately described as a potential species of education. For justification of this stance I used R.S.Peters criteria for processes of education, arguing that play is sustainable as a process of learning by experience, as well as, a learning experience of the "informal sort", as described by Peters in his discussion of the relevance of conversation as an educative process.

CHAPTER FIVE

V A CONCEPTION OF PLAY FOR EDUCATION

> "Cheshire-Puss, she began rather timidly... would you tell me please, which way I ought to go from here?" "That depends a good deal on where you want to get to," said the cat. "I don't care much where"... said Alice. "Then it doesn't matter much which way you go," said the cat. (Lewis Carroll, Alice in Wonderland,p.103)

We live in an interdependent, fast-changing world and a substantial rethinking of schooling is needed if we are to prepare our children for a future whose footings were laid in a microchip revolution. New patterns of society are emerging, a new global citizenry is developing, and with these a new pattern will be needed for education. Reconsideration should be given to influences upon school learnings that ,perhaps, in the past have been overlooked and possibly underrated with the hope of coming to a reassessment of schooling with a fresh view. Play may offer a means for improving schooling.

I believe that the senses of play I have described, those of creative and innocent play, are both senses of the broader category of play as an activity which can have heuristic benefits. It can be an activity through which we explore and experiment with our environment and our faculties. To substantiate these claims I looked to the primordial experience of play which takes place in infancy. Here the child is unaware of all of the contingencies placed upon being-in-the-world, to use Heidegger's phrase. In the play of infancy the child is most completely engrossed in him or herself. In such play we are being all that we can be, simply being ourselves. Infants do this necessarily and children do this naturally; they are in the world in good faith.

I have discussed how in play children build up their conceptualization of the world. Play includes exploration and can teach the child that acts have consequences. Play provides opportunity for mastery both in terms of self and in terms of the social world, because in play a child can repeat and practise strategies that work for him and gradually learn to use these to seek out new projects and situations to investigate. It seems likely that the child experiences the world first as a series of unrelated

stimuli or events and gradually moves to integrating the schemata. In play the child acquires information which is related to potentials around and within him/herself. It is not unreasonable to postulate that adults who have within their dispositions a propensity to engage in play in x, carry with them this same attitude of playfulness which seems to influence their thinking style. I see play in use both in childhood wonder and adult postulation. In any stage of life it is possible to consider that one, or both, of the heuristic senses of play: the innocent and the creative are ways in which a person strives towards understanding the unknown.

It seems to me then that the senses of play which I have delineated have strong educative implications. Classrooms involving play and play based programmes would use the play for children to investigate concepts new to them and as they confront the new concept, test its uses and range and possibly expand their sense of competence into new areas much as I explained in the preceding chapter in the example of the Math Their Way programme. This is how I see play best being used in education; as a data collection activity which forms a bedrock of thinking for children. I see play as an activity which lays a foundation through exploration and discovery upon which knowledge is extended and banked until called upon when needed in life. I will now draw on an analogy for understanding how current curricular practice limits children's functioning in schools.

Consider a toddler kept in a playpen for most of the day. The child will be limited by the boundaries of the play pen to the exploration of all of the materials with which the playpen was constructed and to the toys or other objects which were placed in the playpen for the child's use. The child is not free to crawl around and touch the things in the world to which it is drawn. The playpen defines the child's world. Compare this child to one who is free to play and move in an exploratory manner in increasingly larger areas of the room and even a house. They can move at their own speed. If they want to return to something which attracted their attention they are able to do so. This child is free to investigate all that he is drawn to and yet is free to return to the familiar. In this way the child gains greater mobility and independence and discovers more about a wider range of the environment and his world. Curricula designed without allowance for play act as playpens for children. The curriculum defines the child's world. Play, however, is the child's praxis upon the world. It is the activity

through which the child theorizes and puts into practice what he learns as he explores. As educators we should allow for this natural functioning in which children are free to see, touch, feel, and sense the wider world and in so doing be given the chance to increase their knowledge of the conditions and consequences of the environment so that when a priori assumptions change, they will more likely able to create a new response. This is not to suggest that our schools become totally unstructured and curricula free. That would be a ridiculous posture to strike. However, more balance should be given within planned curricula to provision for the innocent and creative senses of play with the materials and concepts as they are introduced within the curricula. I believe this to be a way in which to foster the kind of flexible student the schools of the 21st century may desire.

A child who is almost entirely educated didactically may be handicapped twenty years from now. Today's child may be living on the moon, where surely intellectual skills, a curious mind and the ability to feel free to explore, will stand him much better than the knowledge of facts, long obsolete.

Moreover, since their inception, our schools have basically taught the system. Children are taught how to give the answer the system wants;-- the "right" answer. It may be the case that all too often children are asked questions which limit rather than expand their thinking capabilities. It seems to me we need to find a balance between asking the types of questions which require a "right" answer and those types of questions which are more open ended and foster creative problem solving. Questions in which students may "play" with their own ideas and the ideas of others. Students need to feel that their thinking makes a difference and that adults respect their ability to think. Fostering an accepting atmosphere in the classroom for original, even outlandish ,solutions whether they are practical or not, may serve as a springboard to a more practical idea later. I will illustrate this point with several examples in my concluding chapter. Setting aside classroom time for play with concepts and materials in the atmosphere of creative problem solving ought to help students develop fluency in generating a larger number of responses, flexibility in generating a variety of kinds of responses, and originality in generating unique responses. There are times of course when only the right answer will do, however,

teachers can follow several concrete pedagogical practices which will foster more original thinking in their students:

1. Encourage clarification. By phrasing your questioning such as, "Are you saying that...?"

2. By asking for more information. The wording could be, "Tell us what made you decide that."

3. Open the opportunity for response up to the rest of the class with such as, "Who can add to that?"

Students who give creative responses are often dissuaded either overtly or covertly from risking being different and yet in everyday life there are very few absolute and "right" answers to most of the problems that we, as adults, encounter daily.

Typically, successful adults are those who generate a variety of solutions and keep trying until the best one is found. This is also descriptive of innocent play and creative play which I discussed in the opening chapter of this thesis. In play individuals select, condense, and interpret the reality which interests or puzzles them. Play seems to be, as I stated earlier, the bedrock of thinking. I reemphasize my belief that play lays foundations for thought through exploration, investigation, manipulation and coming to know.

Although the origin of the word 'education' is in dispute, some believe it comes from the Latin educare, to lead out. Instead of leading out to a fuller understanding of self, children are now captured by a system that for the most part prevents people from learning out of their own experience. We teach coordination and living for the system, instead of cooperation and living for ourselves within the system. Instead of how to be yourself with others, we teach how to compete with others. However, the world is rapidly becoming a place where cooperative social skills, attitudes and values will be more needed than competition. I feel Goodlad put it wisely when he wrote,

Other generations believed they had the luxury of preparing their children to live in a society similar to their own. Ours is the first generation to have achieved the Socratic wisdom of knowing that we do not know the world in which our children will live. (Goodlad J., source unknown)

The process of schooling in the twenty-first century will likely need to prepare students who can sustain and nurture a world under seige from the threat of nuclear war, shrinking ozone layers, acid rain, the green house effect, AIDS, unemployment, and increasing leisure time. This will be a century whose schools will likely have aims to create people who will find problems to be solved and to generate new problems and solutions. Play can aid in the development of this attitude. Play can have adaptive significance for the individual by broadening the breadth of experience the individual has to draw on in meeting the challenge of change.

It seems to me that through my analysis of play we can come to not only accept play as an educational process whose emergent activities, exploration, investigation, and manipulation occur before a person's schema is fully organized or integrated, but further, to recognize play's attributes as a basic heuristic concept. An activity through which we explore and experiment with our environment and our faculties.

Earlier in this thesis I argued that the senses of play given in example by many such as voluntariness, spontaneity, and intrinsic motivation are inadequate senses of play for education. Further, that the distinction made by Dearden in which play is simply contrasted to the seriousness of work is also inadequate. I also argued that Price errs in his inclusion of education as a category of play and gave argument to support the opposite notion that indeed play is more correctly within the category of education. I further pointed out that researchers have, in the past, used play as a research vehicle to examine behaviours and that this vehicular sense does not justify claims of play being an essential function of the behaviour. If researchers eventually show that their claims for the functions of play are valid, and I feel they are, then we will have some empirical base of justification for play within schools. However, through examining the two senses of play that I have distinguished, even without knowledge of the functions of play, we are justified in claiming play as the bedrock of thinking in children. Infanthood and childhood give us the most

unadulterated evidence of how we use play to come to make sense of our world. It is in these life stages that we see the primordial contribution of play in our development and following logically, in our education.

CHAPTER SIX

VI   CONCLUSION

It would be a mistake to see only a charming and childish curiosity in the early activities reported by these scientists and artists. They depict for us the ways in which they were filling up, in their youth, some invisible notebooks of their minds. Their wonder is mixed with lasting impressions; their play is pursued with intensity and determination. The shape of their more conscious efforts cannot be determined at such an early stage, but in their youth they collect some of the raw material they will draw on later. The discipline that will transform such material into novel and useful work will come later in their lives. (John-Steiner, 1985,p.42)

In sustained argument throughout this thesis I have developed the theme that play is justified as the bedrock of thinking in children. In play children come to select, condense, and interpret the reality which surrounds them. Play's contribution to individuals comes through our ability, in play, to structure and make sense out of the world. As school is the institution planned for our coming to know about the world it seems logical that as play lays foundations for thinking through exploration, discovery and coming to know, that school is the very place play should be most welcomed. In conclusion I will argue for this very point. In so doing there are, however, two main themes I would like to discuss themes which impact upon the concept of play. Firstly, I am concerned with the current assault on childhood; that life stage in which play is most naturally occurring. Secondly, I am concerned with assaults on our traditional educational system. Assault not only by me, but from all sides. It is at the mercy of the moods of governments who impose new curriculum, policies, and restrictive budgetary formulas. It is bombarded by societal demands from both parents and employers. It is criticized by students who have passed through the system. It has, in fact, been under assault almost since its inception. Throughout the history of schooling, many people who went on to become famous have only negative things to say about school and I will discuss this in more detail later in this chapter. For now, however, the comments of Oscar Wilde will perhaps be a sufficient example of the discontent to which I am referring,

We teach people how to remember -- we never teach them how to grow. Everybody who is incapable of learning has taken to teaching-- that is really what our enthusiasm for education has come to. How appalling is that ignorance which is the inevitable result of the fatal habit of imparting opinions. How it wearies us and must weary himself, with its endless repetition and sickly reiteration. How lacking it is in any element of intellectual growth. In what a vicious circle it always moves. (Illingsworth, 1966, p.253)

It is this vicious circle that is the second of my themes within this chapter. First of all, the current consumption of childhood.

It has taken a very long time to discover childhood. In the process of being discovered children have been at the mercy of the age and society to which they were born. Never before in the history of mankind have we known so much about this separate life stage, and yet even so, children remain at the mercy of a society which claims to do things for the sake of children's well being.

Consider the imaginary case of thirty-seven year old Roger, a first time father, who has already succeeded at college, career, and marriage and who is now beginning a new challenge. "Ready Jennifer? Today we'll do addition. Twelve plus fourteen equals twenty-six." Roger raises two stiff cards covered with red dots. "Show daddy the twenty-six." Jennifer reaches for the closest card, the one with three red dots and chews it thoughtfully. Roger shrugs, just a touch exasperated. "Overtired, I guess. Today was baby gym class." Jennifer is eight months old.

One of a growing number of parents caught up in an early learning craze, Roger is convinced, "if you want a winner you have to start practically at birth." Children are being registered in "just the right" nursery schools even before they are born. They join swimming lessons and body exercises for newborns, they are in gymnastics, ballet and Suzuki music by three, and summer soccer school by four and five.
. The U.S. based Better Baby Institute and dozens of parenting instruction books offer methods to raise smarter kids, with skills in reading, math, and music. In this thesis I have told how infants are more competent and aware than even seemed possible. However, these infants do not need training from birth. Although they want to make sense of their world they need to do so through exploring, manipulating, and communicating as

they grow and develop. They need to learn not in academic skills programmes but in play within the course of daily life with responsive, loving parents.

Children generally pursue learning more persistently when the original idea for the learning was their own. They learn best what they want to learn and what gives them pleasure. They learn best through play. By manipulating blocks, water, sand and clay babies and toddlers discover for themselves what no flash cards could teach. In play activities children calculate, estimate, test gravity, weight, capacity, volume, light refraction, and all manner of activities grounded in physics, mathematics, and art. They need no formal instructional programme to package their education.

Recently author-educators have written of The Hurried Child (Elkind, 1981) and The Disappearance of Childhood (Postman,1982). Both write from the premise that children are being so pressured to produce at any age, at any cost for short term gains, that they are becoming stressed and burned out before school even begins. Elkind warns that children who are frequently confronted with demands beyond their intellectual capacities may be demoralized if they fail and will start to feel worthless. Valerie Suransky writes an even more powerful discourse in her book, The Erosion Of Childhood. She states,

> We have imposed on the social space of childhood an emasculating psychologism which has succeeded in alienating the life project of the child from the child's existential reality...We infantilize children's perceptions and "school" their minds through the domestication of their critical curiosity and consciousness...in the modern era of childhood, every stage from infancy to adolescence is measured and demarcated with fine technological precision, we have "progressed" from the forgetfulness of childhood to the containment of childhood.(p.8)

Adults in pressured parenting and assembly line schooling are essentially depriving children of their personal patterning of the world in ways which are unique, meaningful and significant. In so parenting we alter the prelude which is childhood by distorting it to make it more adult like. In so schooling we perpetuate the system's control and deny children their efficacy. What I am saying is, let the children play. It is an ontological

mode of being in which children attempt to penetrate and understand reality. I turn now to a more detailed discussion of schooling.

Many opinions have been written about school days. H.L.Mencken stated,

> School days, I believe are the unhappiest in the whole span of human existence. They are full of dull, unintelligible tasks, new and unpleasant ordinances, brutal violations of common sense and common decency.(Winokur,p.249)

Robert Morley wrote,

> Show me a man who has enjoyed his school days and I'll show you a bully and a bore.(Winokur, p.249)

Albert Einstein found fault with schooling because it flooded the student with details and submerged the wondering and inventive young mind. Vera John-Steiner quotes Einstein as complaining,

> ...it is, in fact, nothing short of a miracle that the modern techniques of instruction have not yet entirely strangled the holy curiosity of inquiry. (p.47)

Illingsworth in his book, Lessons From Childhood, tells of many boys and girls who were thought by their parents and their teachers to be backward or no better than ordinary and yet had abilities which went unrecognized at school. Gaugin was a dreamer who was indifferent to what he was being taught. Manet was thought to be slow and needing more initiative. Sir Isaac Newton was inattentive and a bad scholar. James Watt was described as dull and inept. Albert Einstein's report cards described him as "mentally slow, unsociable and adrift forever in his foolish dreams." According to Illingsworth, Einstein did not even pretend to be learning and his inattentiveness infuriated his teachers. Oliver Goldsmith was described by his teachers as stupid, "a stupid heavy little blockhead, little better than a fool, whom everybody made fun of." Sir Walter Scott was frequently absent, unmanageable and his performance in school was below average. Hans Anderson was always daydreaming and paid very little attention to his teachers. Charles Thackeray was, "less than mediocre" and was considered lazy. Eventually he was expelled from university for

unsatisfactory work. Leo Tolstoy was considered both unwilling and unable to learn. Yeats was thought to be mentally subnormal. Winston Churchill remained repeatedly at the bottom of his class and wrote, "my teachers saw me at once backward and precocious, reading books beyond my years and yet at the bottom of the form. They were offended." Sir Humphrey Davy wrote to his mother, "learning is a true pleasure; how unfortunate it is that in most schools it is made a pain." Lord Tennyson hated his school so much that after leaving he would never again walk down the street on which it stood. George Bernard Shaw also hated school and wrote, "I instinctively saved my brains from destruction by resolute idleness, which, moreover, made school meaningless and tedious to me." Bishop Warburton was thought of by his teachers as the dullest of dull. He was considered not only dull but inattentive. Warburton said, "I know very well what you and others think of me, but I believe that I shall, one day or other, convince the world that I am not so ignorant or so great a fool as I am believed to be." Illingsworth tells of dozens of other now famous people and their unhappy, unsuccessful experiences with schooling. It truly gives me pause to consider the thousands upon thousands of ordinary individuals who have shared a similar disgust.

It is puzzling that schools, which were designed to do so much for so many, developed this bad reputation and it leads me to question, "How?"

Prior to coming to school, when your learning is self-motivated, (pushy parents aside) you essentially take little pieces of reality and by looking at the pieces are able to make sense of larger complexities. You are basically in a negotiational stance with information about the world. There is room for right and wrong in your play upon the world. However, when school begins you enter a culture where information is dispensed and self motivation gradually decreases and diminishes. The negotiational style of learning in play is replaced with the authoritative style of formal education. Instead of there being a right and wrong, and learning from both, there is often the sense that the teacher will feed you the absolute right answer and you should memorize and repeat it. This can make school a frightening place. A place where you can be humiliated, embarrassed, frightened by not knowing, and is basically, a place to experience failure. It is where echoes are manufactured; and in the humm of schooling machinery, it is hard to hear your own voice.

It doesn't have to be this way. We can rethink and redesign schooling.

Instead of shaping adults who simply repeat what other generations have done. We can shape inventors. Instead of producing conformists in traditional schooling we can adopt methods that will produce original thinkers.

A. Hart, in his book, <u>How The Brain Works</u>, calls the brain a pattern creation device. As we place a person in increasingly more complex and unknown environments the individual tries to make sense of the complexity and the unknown by finding or creating order. It seems to follow therefore, that to strengthen the brain's power to do its fundamental task we should place children in as many rich and varied environments as possible. This is not to contradict what I said earlier about pressured parenting with its warped push to perfection. But a reasoned enrichment arising from the needs of the child at the appropriate age. In this way we would encourage and reinforce efforts made by each individual to make sense of their experiences. Individual meaning would be created as each brain creates patterns and order in unique ways.

This is largely the opposite of what schooling has done and what schools do now. Instead of situating students in increasingly rich and complex environments we package, sequence, and ditto sheet them. We eliminate personal meaning making as children are given few opportunities to synthesize and analyze events in their personal experience with units of study. Rather, we require standardization and memorization of "objective" material.

Schools, as they are now, ineffectual remnants of the industrial era, are designed to foster uniformity, routine, discipline, objectives, systematic assessment, and assembly line productivity. We compel attendance, group according to age so as to limit as much as possible learning from each other, change the focus of subject matter every 30 to 45 minutes, restrict individual input and dialogue, make regular comparisons between peers, sanction norms, punish deviation, encourage only success, and penalize failure by blaming individuals if they don't learn. It is remarkable that anyone has ever learnt anything under these circumstances. Unfortunately, the one thing many learn, as I have illustrated, is to hate school. This should not be the case, for children love to learn. In the play of

infancy and childhood children strive to complete their being, to search for meaning, to understand strangeness. However, in view of the confrontational environment we call school, that people come to hate it, is not unexpected.

The possibilities of human potential for learning under more optimum conditions are thought provoking. If we were to design schools which nurture human beings so as to develop their individual capabilities and resourcefulness by emphasizing qualities such as: participation, questioning, determination, dialoguing, flexible thinking, creativity, inventiveness, and playfulness we would maximize the development of people who happily acquire knowledge and moreover, use it wisely. These are the kind of clientele the 21st century schools should be designed to develop.

Others have had the vision. John Dewey's insight was the vital importance of building educational strategy on the purposes of the child. Nell Nodding in her book, Caring, interprets Dewey when she writes,

> The principle of the leading out of experience does not imply letting the child learn what he pleases; it suggests that, inescapably, the child will learn what he pleases. That means that the educator must arrange the effective world so that the child will be challenged to master significant tasks in significant situations. The initial judgement of significance is the teacher's task. (1984,p.63)

Dewey saw an educational environment arranged to encourage the incipient interests of each concrete child.

Twenty-eight years ago Jerome Bruner, too, had a vision for schools. In his book, The Process Of Education, Bruner called for curricula organized around the "structure of the disciplines" and he developed an approach he labeled, "discovery learning," in this way he believed that students could engage and find for themselves the structure of the intellectual material inherently within the curriculum.

Bruner had the right idea, but it was too manipulative and the apparent freedom was illusory. For human learning to be maximized we ought not to look for skill by skill increase of knowledge but to the opening, enlarging and intertwining of personal schematic patterns within individual brains. Children should be given the opportunity to formulate

personal associations and grow to be persons who generate a variety of solutions and keep trying them until the best one is found. Dewey (1938), called it "flexible purposing", which meant knowing when the goal should change, when to seek out new interactions, and when to alter strategies. Where would we be today if the Norsemen and Columbus had accepted the one right answer of a flat world?

Education has always been infatuated with the idea of creating a strong affiliation with hard science. It was thought that the more education could become like science the more rigor could be applied to intellectualizing about education, the more objective would be our study of student's behaviours and learning outcomes, and the more we would be legitimized as as a discipline. The irony of all of this to me is that "doing" hard science is a lot more like being in the world in play than actually sitting and objectively studying facts and methodically applying them. I will illustrate what I mean.

In 1977 Paul MacReady, an aerodynamicist from Pasadena California, won the $100,000 Kremer Prize for designing the first sustained human flight aircraft. He is now working on a full-scale, winged replica of a pterosaur, the flying dinosaur like reptile. Macready didn't design his human powered aircraft after being inspired by an engineering professor, nor after reading all he could about lift drag. MacReady tells the story of how he planned his aircraft while driving a van across Arizona with his family. He watched vultures bank and glide and as he drove along he played in his mind with his observations of the birds. He was making associations which suggested to him that the best strategy was to build the aircraft light and large. The result of MacReady's playful idea was coupled with knowledge he computed when he arrived home on: banking angles, turning radius, wing loading, and flight speed. The result of his efforts was the 96 foot winged, Gosamer Condor, which was held aloft by human pedal power.

Astronomer Charles Kowal works at the Mount Palomar observatory. He didn't like school and didn't go beyond a B.A., however by photographing the heavens night after night, through a telescope at the observatory, Charles Kowal has discovered 81 supernovas, the thirteenth and fourteenth moon of Jupiter, a strange celestial object between the orbits of Saturn and Jupiter, called Chiron and a whole list of asteroids and

comets. This is not text book science but it's good science with aspects of intuition, imagination, and playfulness. This approach to science, using play as a bedrock for thinking in the conceptual scheme of the discipline, may be one aspect of science that has not been considered as a part of the scientific role model for education.

Essentially I believe we have been looking in the wrong areas for creating an image for, or developing a model of, schooling and education. The factory, technological model which emphasizes standardization, and productivity; and the scientific model, which emphasizes objectivity and methodology lead to static, unimaginative, inappropriate models for modern educational practice. As Elliot Eisner so aptly put it,

> Intentions need not precede action; they grow out of action. Rationality includes the capacity to play, to explore, to search for surprise and effective novelty. Such activities are not necessarily contrary to the exercise of human rationality; they may be its most compelling exemplification. What diminishes human rationality is the thwarting of flexible human intelligence by prescription that shackle the educational imagination. (1985,p.186)

Rationality is surely the hallmark by which we identify the educated man. Surely rationality is born of understanding. Surely, without exception, man's initial step toward understanding is postulative. Surely the one inescapable invariant in postulation is play. We may pursue explanation, or verification, we may draw upon past experience and previously acquired knowledge to arrive at understanding, but we always begin with "if". Play licenses us to postulate.

Play is the congruence between "being" and "doing." Play does not force us to change, grow, or become better and more effective organisms, but it facilitates the possibilities of this happening. Play provides the optimum context in which change might occur. It is man's way of "doing" in which he can avoid capture by a system. It is for these reasons that we should include play within the domain of education.

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