HISTORICAL ANTECEDENTS
OF OPEN EDUCATIONAL IDEAS

by

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ABSTRACT

Open Education is an approach to education that is very popular in North America, yet many of its beliefs, methods and aims are not clear. Such a situation presents two problems: how can more clarity be brought to Open Education and how can an approach that is not clear have such popularity and strength?

Much of the literature implies that Open Education is a new approach and much of its popularity can be attributed to a belief in its novelty. To demonstrate the falsity of such a belief, this thesis will show that very many ideas espoused by Open Education have been enunciated and practised by educators over the past two and a half thousand years. The historical information that illustrates this fact will also be used to bring some measure of resolution to the problems of vagueness and popularity that Open Education presents.

In Chapter One the main characteristics of Open Education are established through a review of the literature. Succeeding chapters show the extent to which these present characteristics are adoptions or adaptations of the educational ideas of Classical and Renaissance educators, of Comenius and Rousseau, of Froebel, Pestalozzi and Montessori, and of Dewey, Piaget, Bertrand Russell and other twentieth century educationalists.

Such a process makes it possible to examine in more
detail the characteristics outlined in Chapter One. The examination provided in the final chapter brings more clarity to Open Education as well as highlighting weaknesses that need yet more consideration and clarification. The thesis concludes by arguing that, in spite of its lack of clarity, Open Education is popular and strong because it is suited to important social attitudes of today, and because it has adopted many of the ideas of past great educators, united these ideas in a single approach, supported them with Piaget's recent discoveries and presented them in a manner that the public system can adopt.
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INTRODUCTION

Open Education is the name given to a particular approach to education. It is considered a new approach that has achieved much popularity in North America during the last decade. However, despite an ever-increasing body of literature on Open Education, despite adoption by more and more schools and teachers, and despite claims that it is influenced by the work of Piaget, Dewey, Montessori, Rousseau and other famous educators, there is a significant lack of clarity in this approach. The theory of Open Education is undeveloped. Little attempt has been made to explicate its beliefs, methods, and aims, and their development.

In its present form, Open Education first emerged in the British primary schools during and just after the second World War. These schools are considered the progenitors of this approach. The evolution of Open Education in these schools has been marked by a style which is "pragmatic and action oriented" (Armington 1972, p. 66) for Open Education- activists have been concerned to practise education in the manner they feel is best, rather than first establish a theory of education as a basis for their educational practices:

Just as the good craftsmen of the Renaissance expressed themselves through the work they did and not through writing books about it, so teachers express themselves through the work they do, through the human beings who have been their pupils, and not by writing little papers. (Hawkins 1969, p. 490)

In spite of a need for more clarity, therefore, the
lack of a clearly articulated theory of Open Education is not a mere oversight. The Plowden Report reinforces this point: "Head Teachers who were considered by Her Majesty's Inspectors to be most successful in practice, were least able to formulate their aims clearly and convincingly" (The Plowden Report 1967, para. 397). Although the evidence for this statement is not given, and although the criteria by which Her Majesty's Inspectors judged Head Teachers are not made explicit, it indicates that Open Education lacks a clearly articulated philosophy or rules of procedure.

Charles Rathbone claims that "Open Education teachers pledge no allegiance to any codified statements of principle. Indeed individual differences abound" (Rathbone, Article 1971, p. 97), and Roland Barth suggests that:

Any effort to clarify a phenomenon as fundamental and complex as Open Education introduces a disturbing dilemma: at best such an attempt can only be tentative, incomplete and subjective; at worst it can be misunderstood, only partially understood, or misused. (Barth 1971, p. 135)

To some extent therefore, its proponents intend that there should be no clear answer to the question "What is Open Education?".

Acquaintance with the literature allows one to identify key features of Open Education, for example optimism, belief in all-round development, an emphasis on a child's individual needs and interests, processes appropriate to a child's stage of development, activities giving first-hand physical experience, and others. The problem, however, is
that these features all seem to have a more or less long ancestry, and some are very ancient. Wherein, then, does the novelty and power of Open Education lie? Clearly it has a powerful theoretical appeal, despite the relatively primitive state of the theory.

This thesis will focus on the theoretical level primarily, considering social and other background matters only where necessary. Having established a set of basic Open Educational ideas, it will look for and examine earlier statements of these ideas to see precisely what is new, what is old, what changes some of the familiar-sounding ideas have undergone, and so see more clearly what is distinctive about the present set of ideas commonly recognized as central to the Open Educational approach. This procedure should, also, allow one to respond more clearly to the question "What is Open Education?".

Although in achieving the above aims this thesis consciously and frequently points out the similarity between Open Educational ideas and the ideas of earlier educators, it does not demonstrate a causal connection between them. Indeed to attempt such a demonstration is an exceedingly difficult task. The transference and dissemination of ideas, by virtue of their intangible nature, is hard to trace and in the case of educators of previous centuries cannot be done with certainty. Just as Open Educationalists do not announce or in many cases even consider from where their ideas come, so previous educators do not generally give the sources of their ideas.
However, the circumstances of Western, cultural development suggest that, in very general ways, it is probably legitimate to infer causal connections between the ideas originally formulated by a particular educator and similar ideas that are part of the Open Educational approach. In keeping with this belief that a connection can be inferred between the first and later statements of similar ideas, this thesis considers, in close association, the ideas of past educators and those of Open Education, inferring, without demonstrating, a probable causal connection.

It begins by describing from the literature on Open Education, what are the movement's principle characteristics. It then considers the historical antecedents of these characteristics, tracing their beginnings and changes up to this century, and finally examines how the amalgamation of similar ideas into a more or less coherent system, which is called Open Education, has produced distinctive features that help account for the quite sudden and very powerful appeal of Open Education today.
R.S. Peters concludes his analysis of education by saying that:

"Educating" people suggests a family of processes whose principle of unity is the development of desirable qualities within them . . . also it involves the development of knowledge and understanding . . . [which] should not be too narrowly specialised. (Hirst and Peters 1970, p. 19)

This conclusion suggests three basic educational questions: which processes are most appropriate, what qualities are most desirable and what knowledge and understanding should be developed in education?

Open Education is an approach to education that suggests answers to these questions. However the answers cannot be fully understood unless one also understands what attitudes, beliefs, assumptions and theories have influenced the Open Educationalists in forming their answers. Indeed, Silberman suggests that the shared attitudes and convictions of Open Educationalists, above all else, make Open Education what it is. In outlining the answers that Open Education gives, therefore, consideration will be given to the influences that have moulded these answers.

From the literature, it seems that the principal influences are an optimistic attitude towards educational problems, a belief in the importance of the individual whose
specific needs and interests should be recognized, assumptions about the changing nature of society, and an acceptance of certain theories of learning, particularly those of Jean Piaget, but also those of Susan Isaacs and others. It is possible to show how each of these attitudes, beliefs, assumptions and accepted theories suggests a certain answer to one or more of the questions.

Optimism is a notable characteristic of Open Education. Although about a child's development, of itself, neither suggests nor is sufficient justification for any specific educational practice, it pervades the whole approach of the Open Educationalists and therefore influences many of their proposals. "Respect for and trust in the child are perhaps the most basic principles, with the assumption that all children want to learn and will learn." (Nyquist 1972, p. 102)

"Teachers begin with the assumption that the children want to learn and will learn in their fashion." (Gross and Gross 1970, p. 78) "Teachers must trust children's imagination, feelings, curiosity and natural desire to explore and understand their world." (Ibid.) "The aim of education expressed in the English primary school movement is to influence children to become thinking, autonomous, sensitive people." (Featherstone 1971, p. 23) The last statement assumes that children are all capable of becoming thinking, autonomous, sensitive people. The previous statements assume that children are naturally motivated to learn and that
therefore there is no motivational problem - a significant assumption in the light of criticisms of the public school which suggest that schools, by their very nature, stifle such natural motivation (see Holt 1964).

The frequency and insistence of such remarks make it clear that Open Educationalists believe not only that a child is able to learn and learn by himself, but that he desires to do so. They believe that teachers can and must trust children to find out things for themselves, and decide for themselves. What specifically children should find out, decide or learn is not clearly stated, although consideration of the activities performed by the pupils gives some clue as to what should be learned. In general, however, and Open Educationalists tend to write in general terms, they say that children should learn about what interests them and what they need to know about "their world".

Such an attitude implies that children are able, and should be trusted with the freedom, to choose the activity they will perform. Also they should be trusted with the freedom to move to and between the activities that are set up. These are the kinds of proposals to which an optimistic attitude gives rise.

A second characteristic of Open Education is its emphasis on the individual: "At the heart of the educational process lies the child" (The Plowden Report 1967, para. 9), and "basic to English infant education . . . are ideas of individual and actively independent development" (Weber 1971,
"Education should strive to maintain the individuality and originality of the learner" (Vermont 1968, p. 4). In order to achieve this, "an individual must be allowed to work according to his own abilities" (Ibid. p. 5) and his "own way of learning" (Ibid., p. 4).

"Since each child develops at a separate pace, ... teaching practice ought to work from individual differences" (Featherstone 1971, p. 21). Thus a requirement for a "good elementary school" is "programmes that respond to each child's individual needs" (Silberman 1973, p. 109).

Since a child grows up intellectually, emotionally and physically at different rates, his teachers need to know and take account of his "developmental age" in all three aspects (The Plowden Report 1967, para. 75) when setting up the programmes.

Since the needs, interests, abilities and pace of development of each pupil differ, Open Educationalists believe that the processes of education should respond to these differences. They also believe that every facet of the individual - intellectual, emotional, moral and physical - should be developed. What is distinctive about this latter belief is that Open Educationalists desire to develop each in a balanced way. Advocates of Open Education claim that at present, the public schools stress intellectual development above all others. Indeed Broudy, an apologist for public schooling, spends little time in The Real World of the Public Schools discussing physical or emotional development (Broudy 1972) and Raths' work on the "Needs", "Values" and thinking
processes of children - work that has influenced the thinking of Open Educationalists - strongly suggests an imbalance in the traditional methods of schooling (see Raths 1972, Raths et al 1966, Raths, Harman and Simon 1966).

The Open Educationalist considers that within programmes that are individualized, are to be found the most appropriate processes to achieve these aims. (By "individualized programmes" is meant programmes of activities designed to meet the needs of each pupil, and from which each pupil can choose according to his interests.) Each activity is intended to be within the child's capabilities and pursued at the pace most appropriate to him. Such a statement raises several questions: how are the activities that make up the programme selected, how are the needs, interests and abilities of the pupil determined, and how is it decided what pace is most appropriate to the pupil?

The literature suggests that the teacher is responsible for most of the decision making. "The school sets out deliberately to devise the right environment" (The Plowden Report 1967, para. 75), so that students can "choose what to do from a range of materials carefully selected by the teachers" (Ibid., para. 519). "Their main task . . . would be to keep a watchful eye on what each pupil was doing in order to be certain that the child did not forego or neglect any important area of learning." (Clegg 1971, p. 46). If a teacher "has noticed, for instance, that pupils have been neglecting math or need work in punctuation, she tells them
that they should start the day working with her." (Gross and Gross 1970, p. 378) The materials and activities chosen should accord with the child's present intellectual, emotional and physical development and with what the child needs for further development.

From his knowledge of the child and from his understanding of the desirable qualities, and the knowledge and understanding to be developed, the teacher chooses activities that accord with the needs and present stage of development of the pupil. He permits the pupil to choose between them and pursue them at the pace he deems appropriate for that pupil.

The extent to which the teacher independently determines a student's needs, chooses activities and requires a certain rate of achievement, must be balanced against what interests the child.

Skills of reading and writing or the techniques used in art or craft can best be taught when the need for them is evident to children. A child who has no immediate incentive for learning to read is unlikely to succeed because of warnings about the disadvantages of illiteracy in adult life. There is therefore good reason for allowing young children to choose within a carefully prepared environment in which choices and interest are supported by their teachers who will have in mind the potentialities for further learning. (The Plowden Report 1967, para. 530)

Respect for the child means accepting the legitimacy of individual students' interests. And this, in turn, means letting students' learning, at least part of the time, proceed from their interests; it means giving them the freedom to explore and supporting them in their exploration. (Silberman 1973, p. xix)

These quotations do not outline precisely how the
teacher should operate, nor is their argument beyond question. However, they do give an indication of the extent to which the teacher must balance what he thinks the child needs to be doing with what the child is interested in doing.

The assumptions Open Educationalists make about the future of society and an individual's needs within that future society, constitute a third characteristic of Open Education.

One obvious purpose [of schools] is to fit children for the society into which they will grow up. To do this successfully, it is necessary to predict what that society will be like. It will certainly be marked by rapid and far-reaching economic and social change. (The Plowden Report 1967, para. 494) . . . For such a society, children, and the adults they will become, will need above all to be adaptable and capable of adjusting to their differences, understanding and sympathising with their feelings. They will need the power of discrimination and, when necessary, to be able to withstand mass pressures. They will need throughout their adult life to be capable of being taught and of learning, the new skills called for by the changing economic scene. They will need to understand that in a democratic society each individual has obligations to the community, as well as rights within it. (Ibid., para. 496)

In this age of the "knowledge explosion" it is difficult to generalise about the subject-matter content of the curriculum. There is probably no sacred body of information that all children everywhere must be exposed to. (Armington 1972, p. 68)

As a result

British teachers are greatly concerned with how a child learns: the kinds of questions he asks and the ways in which he goes about resolving them. Over the long haul British teachers believe that the attitudes towards learning will prove infinitely more valuable than will the subject matter dealt with in the development of such skills. (Rogers 1970, p. 289)

Therefore,

the development of an individual's thought process should be primary. . . . The ability to solve problems, whether social, mathematical or economic must be given
preference. A person equipped to function adequately is able to relate his knowledge to new situations in order to solve new problems. (Vermont 1968, p. 7)

Open Educationalists acknowledge that society is changing and will continue to change. They assume that this change will produce increasingly more knowledge, and also entirely new problems. These assumptions lead directly to an answer to the question - what knowledge and understanding should be developed in education? Open Educationalists are chiefly concerned with procedural knowledge, that is knowledge and understanding of how to do things. They consider pupils need to know how to write, how to read and how to handle basic mathematical computations. Also they need to know how to think for themselves and solve problems.

In general terms, proponents of Open Education stress "the significance of process over product in the education of the child" (Rogers 1970, p. 289).

More and more the teacher comes to realise that what really matters is not the quality of the picture that the child has drawn or the excellence of the writing he has produced, but what has happened to the child in the process. (Clegg 1971, p. 48)

Although Open Educationalists are greatly concerned with procedural knowledge, they do not ignore knowledge and understanding of "the product". The literature suggests how one can teach and provide knowledge in reading, writing, mathematics, science, social studies and art (see Nyquist and Hawes 1972, section II, and Silberman 1973, part four). The Open Educationalist therefore promotes knowledge and understanding of the product, and does so in these traditional
subject areas. However, such knowledge is also to be gained from the local environment, for

the classroom, or even the school, is an extremely limited learning environment. The total culture surrounding each pupil should become his learning environment. . . . The wealth of personal talent in the community should be utilized. (Vermont 1968, p. 13)

This emphasis on learning from the environment is a distinctive departure from the classroom orientation that has largely dominated schooling until now.

R.S. Peters has suggested that education involves the development of desirable qualities in the educated. As well as suggesting what knowledge is most valuable, the Open Educationalists' assumptions about the future of society, suggest what qualities they consider most desirable, although abilities might be a more appropriate term. The desirable qualities are those of adaptability to new circumstances, competence in solving new problems, co-operation with others, responsibility towards others and towards community obligations, concern for learning throughout life, and an intellectually and emotionally well-balanced personality able to "express personal ideas and feelings fluently, forcibly and as occasion demands imaginatively" (Clegg 1971, p. 47).

Fourthly, Open Education is characterized by the theories of learning that it attempts to implement. These are the theories of such people as Jean Piaget, Susan Isaacs and Jerome Bruner. It is claimed, for example, that the "theoretical basis of the open classroom is found in the works of the Swiss psychologist Jean Piaget" (Gross and Gross
The Plowden Report rejects behaviourist theory by saying that "it does not offer very much help to teachers since, for the most part, the motives and sequences of children's learning are too complicated for analysis in terms of simple models" (The Plowden Report 1967, para. 519).

It is not possible to say whether Open Educationalists shape their practices according to these theories because they think that the evidence strongly favours these theories, or because the theories fit well with their beliefs and assumptions. However the theories influence, or give support to, the processes of Open Education in four ways.

First, the theories emphasize that "development rests within the whole that is the child" (Weber 1971, p. 178), and that the manner of a child's learning is not naturally compartmentalized. That is, they emphasize that intellectual, emotional, physical and moral development are all occurring simultaneously and that when a child learns something, he does not divide that piece of learning into its scientific, mathematical, social or artistic parts (see Weber 1971, ch. 4). As a result, the 'open' school "insists that knowledge does not fall into neatly separate compartments and that work and play are not opposite but complementary" (The Plowden Report 1967, para. 521). "Open education does not see individual learning as encouraged by separation into departments of instruction but rather by provision of an integrated approach to all subject matter and skill areas" (Flurry 1972, p. 106). Integration of subject matter is therefore a feature of this
approach to the processes of, and the knowledge and understanding transmitted in, education.

Secondly, the theories give strong support to the emphasis Open Education places upon experience:

One of the most important conclusions made by the school of research associated with the names of Baldwin, Isaacs, Luria, Bruner and in particular Jean Piaget . . . is that the great majority of primary school children can only learn efficiently from concrete situations as lived or described. (The Plowden Report 1967, para. 521)

In the philosophy of the Education Development Centre, for nearly a decade an important source of interest and expertise in Open Education, there is, for example, "a marked and pervasive emphasis on the importance of experience for human development" (Bussis and Chittenden 1970, p. 9). Thus Open Educational processes provide much first-hand experience for the child.

When the teachers talk about "first-hand experience" what they often have in mind is exploration of the physical environment of the school, though the expression of course includes other kinds of experience as well. (The Plowden Report 1967, para. 543)

In order that students can gain first-hand experience, Open Educationalists encourage and enable students to handle materials, to construct objects with the materials, and to examine the classroom, the school and the local environment for themselves.

The Open Educationalist also accepts the important role that the teacher, as an adult, plays in a child's experience and in the development of the child's understanding of the world:
Because the actual reality in which a child lives is the corrective impelling him to new accommodations [to new organizations and understandings of the knowledge he has absorbed], the adult's role should be mild, sane, but strong enough to support a child's growth, strong enough to help him to further reaccommodations. (Weber 1971, p. 178)

To this end Open Education emphasizes a close friendly relationship between teacher and taught (see Rogers 1970, p. 290).

Piaget's hypotheses concerning intellectual development constitute a third influence upon the Open Educationalists. They accept that each child will go through the same developmental stages, but not at the same rate, and set up activities to match the child's stage of development.

The fourth influence comes particularly from Bruner. Open Educationalists acknowledge that "a theory of instruction should specify the most effective sequences in which to present the materials to be learned" (Bruner 1966, p. 41), and structure their activities with this directive in mind. The activities are designed to promote step by step development of those concepts a child seems interested in learning.

As a preliminary summary, therefore: Open Educationalists are optimistic. They believe that pupils desire to learn and are able to direct their own learning; they should therefore be given the freedom to select the activity they will perform and to move about as the activity demands. They believe that each individual is important and different, that the differences, the needs, and the interests of each individual should be recognized and that the emotional, physical and
intellectual aspects of the individual should each be developed. The 'open' teacher therefore sets up for the pupils a range of activities selected with regard to the needs and interests of each. Open Educationalists accept the theories that children learn and develop in a "whole" manner, and that subject matter should therefore be integrated; that first-hand experience promotes more effective learning; that intellectual development occurs in stages and that concepts may be hierarchically structured, so the activities which provide much first-hand experience, are also selected with regard to the stage and appropriate rate of development of each pupil, and promote ordered conceptual development. Finally, Open Educationalists assume that society will continue to change, leading to new knowledge to be absorbed and used, and new problems to be solved. The knowledge and understanding to be developed in the performance of the activities is, therefore, largely procedural knowledge; Open Educationalists seem more concerned with the process of learning, or making, than either with the product learned, or with what is produced as a result of the experience. However, the learning process is centred on activities dealing with traditional subject areas and with the local environment. The process and the knowledge learned are intended to develop qualities of adaptability, co-operation, responsibility to one's own learning and to the needs of the community, being able to express oneself, and having a lifelong desire to learn.
In this way Open Education provides answers to the questions posed by R.S. Peters' analysis of education. However, the answers are vague and lacking in substance. The following chapters flesh out the ideas they contain by examining the original derivation of the ideas and the changes and development they have undergone.
Chapter 2

THE CLASSICAL TRADITION

Throughout the Classical period of history, Greece was politically diverse and fragmented. At different times Athens, Sparta and Thebes were each a dominant influence in the peninsula. It was an area of conflicting loyalties and conflicting interests. The Roman Empire, however, at its height was a single entity, strong and sure, and the aim, even of the barbarian condottieri during its decline, "was to serve and preserve the Roman Empire, the Roman idea" (Marou 1956, p. 414). Although the Greek states were small and numerous, and the Roman Empire was single and large, both forms of organization were faced with the same problems - how to maintain or extend their borders and how to preserve whatever autonomy and control they had established within them. Both held in common a fundamental attitude towards man and his role in society, and this attitude contained a solution to these problems. They believed that man's role was to serve the state, and that in this service glory was gained and the ideal of manhood, conceived from classical literature, was achieved. Such an attitude promoted a sense of dedication to the state, and a willing body of politicians and soldiers. By educating the young to accept this role and to see the service of the state as the highest function they could perform, the Greeks and Romans reinforced their view of man
and attempted to preserve their organizations.

Many instances testify to the Greek and Roman emphasis upon service to the state. The great Sophist educational movement of the fifth and fourth centuries B.C. aimed "entirely at political education, training to serve the polis" (Jaeger 1939, Vol. I, p. 228). In The Republic, Plato showed how every member of the Republic would have a required role to fulfill and carefully explained how the more important members would be educated, or trained, for their job. Much later, Cicero whose works profoundly influenced Roman education, wrote "salus publica suprema lex esto", the safety of the state is the supreme law, or, as Marou interprets it, "the country's interest should set the supreme standard for valour and virtue" (Marou 1956, p. 317). Both Greeks and Romans believed that the security of the state came first and the individual was subordinate to it. In their treatment of the young, both up to the age of seven and in the early years of school, they demonstrated that those yet unable to serve the state were of little importance (see Ibid., pp. 204-213, Part Two, Ch. VI).

Since the individual was required to subordinate himself to the state and to serve it, education became a process of casting the individual in a mould appropriate to this role. Such a mould was the Classical ideal.

The greatest work of art that the Greeks had to create was man. They were the first to recognize that education means deliberately moulding human character in accordance with an ideal. . . . By discovering man, the Greeks did not discover the subjective self, but realized the universal
The intellectual principle of the Greeks is not individualism, but "humanism", to use the word in its original and classical sense. . . . It meant the process of educating man into his true form, the real and genuine human nature. That is the true Greek Paideia. . . . It starts from the ideal not from the individual. . . . [The ideal man] is the universally valid model of humanity which all individuals are bound to imitate. (Jaeger 1939, Vol. I, pp. xxii-xxiii)

The ideal was to be found in the works of the great Greek writers, particularly Homer.

The Greeks always felt that a poet was in the broadest sense the educator of his people (Ibid., Vol. I, p. 35) . . . [educating his hearers] by the very act of preserving the glory of the past in his poetry. Myth and heroic poetry are the nation's inexhaustible treasure of great examples: from them it derives its ideals and its standards for daily life. (Ibid., Vol. I, pp. 40-41)

An example of the ideal, a model set up by Homer which Greeks were encouraged to imitate, was Achilles:

the young hero of superhuman strength and courage, who faces an early doom. He has deliberately chosen the short steep ascent to heroic glory rather than a long ignoble life of peace and pleasure. He is the true megalopsychos, the high minded man. (Ibid., Vol. I, p. 46)

The means by which these works and ideal models were to impress pupils were explained by Plato. He believed that young men dwelling in a wholesome climate may drink in good from every quarter, whence like a breeze bearing health from happy regions, some influence from noble works constantly falls upon eye and ear from childhood upwards, and imperceptibly draws them unto sympathy and harmony with the beauty of reason whose impress they take. (Plato, ed. Cornford 1945, Book 3, p. 401)

He also believed that "the soul of every man does possess the power of learning the truth and the organ to see it with" (Ibid., Book 7, p. 518).

Imitation of such ideal models was considered a worthwhile exercise, not only because they were ideal, but because
they were accepted as entirely credible. The Greeks viewed them as having been living ideals (see Jaeger 1939, Vol. I, p. xxiv). To the Romans, they were presented and received as historical fact (see Marou 1956, p. 317).

Although the models were believed to have lived, and although they strove to imitate them, the Greeks and Romans were fatalistic about the outcome of their endeavours. Their view of man was essentially tragic. His destiny was determined by fate about which he himself could do little - after all, man is bound to die.

Such an attitude throws a shadow on an otherwise optimistic appraisal of man's potential. Nevertheless, despite their fatalism and their inability to forget that however great a man's achievements he will eventually die, the Greeks and Romans were optimistic about what man could achieve. The Sophists, for example, "started with an optimistic belief that man's nature is usually educable and good" (Jaeger 1939, Vol. I, p. 307). Consequently, the ancients set up an educational process that would best enable a man to achieve the ideal, in the belief that it was indeed achievable.

To some extent Open Educationalists are similarly optimistic, for they believe that each child wants to learn and is capable of working on his own and working well. But unlike classical educators, they have no clear ideal towards which they can hope children will develop. In the literature on Open Education there is no model for development. In fact
the notion of having an ideal is somewhat alien to Open Education for each individual is expected to develop in his own way and not simply conform to someone else's opinion of what is ideal.

The insistence upon acceptance and imitation of Classical ideal models can be viewed as indoctrination, yet the emphasis on the ideal provided Classical education with a clear goal. The educational methods most appropriate for its attainment were suggested by the nature of the ideal itself.

The Classical ideal was above all a moral concept, but it was also much more than that. The ideal hero of Greek myth-history was a near-divine figure whose intellectual and physical, as well as moral, endowments were fully developed, and, more particularly, were in balance. Harmonious development was a chief concern of the Greeks. "The idea of shaping the soul is implicit in Protagoras' assertion that harmony and the rhythm of poetry and music must be impressed on the soul to make it rhythmical and harmonious" (Jaeger 1939, Vol. I, p. 314). Consequently, Classical education aimed at promoting balanced, all-round development of man's intellectual, moral and physical potential. In this concern can again be seen the clarity and surety of the Greek vision of education, more clear and sure than the Open Educational view. The Greeks provided, in the works of Isocrates and Plato for example, a coherent theory of all-round development and clearly explained how it might be achieved. Open Education
does emphasize the need for all-round development. It argues with little fear of contradiction, that an individual has intellectual, moral and physical potentialities, and to ignore any one is to ignore and consequently distort the true nature of the individual. But without an ideal to be achieved, indeed having no desire to impose a preconceived set of standards and goals on an individual pupil, Open Educationalists cannot clarify the notion of all-round development to the extent that the Greeks did. Perhaps because they do not have an ideal, perhaps because they do not know how, or perhaps because they are not aware of the lack, Open Educationalists have not provided a systematic means of achieving all-round development. Open Education recommends the provision of a wide range of activities concerned with the development of all three areas — intellectual, physical and moral — but does not show how these will promote all-round development.

The foundations of education in the archaic and classical Greek periods were music and gymnastics (Jaeger 1939, Vol. I, p. 225). From Plato's Republic we get a clear understanding of what was meant by these subjects. "Music" referred to both poetry and music itself. The study of poetry involved the study of the greatest Greek authors; playwrights, historians, prose writers were in fact studied as well as poets. In these works were contained the whole gamut of Greek knowledge — history, geography, science as well as literature itself in all its forms (Marou 1956, p. 378).
Whereas music harmoniously cultivated the intellect, gymnastics harmoniously developed the physique. Considering the Greek emphasis on the individual - the heroes were independent beings who sought their own perfection in the service of the state - it is significant that gymnastics is an individualistic activity. Both music and gymnastics contribute towards moral development, music through the morals contained in the poetry and gymnastics through the dancing that was integral to it. Dancing was considered a way of disciplining and bringing under the harmony of law the natural tendencies of every young human being to get rid of its energy by means of violent movement, and it is thus a highly effective way of promoting moral discipline. (Ibid., p. 108)

In addition to music and gymnastics, which in any case were broadly conceived, Plato also included in his curriculum mathematics, which was to be an introduction to philosophy. The curriculum of Greek education was therefore broad. In fact it was as broad as it could be, for by including the greatest of Greek literary works it covered the whole range of knowledge (Ibid., Part 2, Ch. VII). It was aimed at all-round development, and the exponents of Greek education explained how this aim was to be achieved.

In theory, therefore, a system of all-round development was devised and the work of Isocrates suggests that in practice it was successful. Isocrates was a contemporary and a rival of Plato. One of his major concerns was education which he "addressed to the complete man, body and soul - physical training and mental culture going forward
together as two interlocking and balanced forms of discipline" (Ibid., p. 124). The fact that "from our own pedagogic methods and ideals a direct line runs back to him" (Jaeger 1939, Vol. II, p. 48), is a measure of Isocrates' educational significance. The great popularity of his school and the tremendous influence his work had on the development of later Greek education, is a measure of his practical success in achieving his educational aims.

Two principles that Open Education espouses - the importance of a broad curriculum and of all-round development - were therefore clearly articulated by the Greeks in both theory and practice. Open Education also insists upon individualized instruction, yet Marou says that "the evidence seems to show that Greek education was more individualised than ours" (Marou 1956, p. 209). It must be realized that during the time of the Greeks and Romans, although education was widely available, it was almost exclusively the preserve of the wealthy. The Classical teacher did not have to attend to as many students as surround today's teacher.

School for the Greeks meant an enthusiastic little band of pupils centring round a well-known teacher and growing more deeply united as time went by as a result of living more or less a communal life and developing more and more intimate personal relationships. (Ibid., p. 302)

For the Greeks therefore education involved a small number of pupils for each teacher, and an intimate relationship between teacher and taught; the sort of relationship that an Open Educationalist desires but may not be able to achieve.
Another similarity between Greek education and Open Education is that both aimed to provide pupils with skills that would be useful in their future life, although this similarity is somewhat superficial. In Open Education the criteria of usefulness are established with reference to an individual and vary with each one. With Greek education, on the other hand, the criteria of usefulness were established with reference only to the state, the individual was hardly considered. Thus Plato intended that his guards should learn only that which they needed to do their job well (Jaeger 1939, Vol. II, p. 223), and an explicit aim of Isocrates' school was to meet the political needs of the state by producing able politicians (Ibid., Vol. II, p. 154).

There seem to be no further significant similarities between Greek education and Open Education. In fact one must beware of overstressing the similarities that have been drawn. All that has been said about Greek education is true for the fourth century B.C., and in theory it remained so throughout the Classical period - in theory music and gymnastics remained the basis of Greek education. In practice, however, education became increasingly academic (Marou 1956, pp. 237-242). Gymnastics, or athletics which is what the physical side of education had become, grew more and more professional. As it did so, the all-rounder and amateur sportsman was excluded and physical education fell into disrepute (Ibid., pp. 185-6). In practice, therefore, the curriculum ceased to be so broad.
In practice, also, the activities undertaken were repetitive and often divorced from reality. The method of teaching reading was based on a purely rational a priori analysis of the thing to be learnt, in complete indifference to any of the learner's - i.e. the child's - psychological problems. Learning proceeded from the simple to the complex from the part to the whole. . . . Hence the first thing to be learned was the alphabet; then the syllables, then words, then sentences, and finally continuous passages. Completion of one stage preceded a move to the next. (Ibid., p. 210)

Writing was taught with a similar indifference to psychology, while the subjects chosen for practice in rhetoric were invariably hypothetical and improbable (Ibid., p. 210).

Roman education was essentially a replication of the Greek system (Ibid., Part 3, chs. IV, V). Great emphasis was placed on achieving the ideal, though the ideal models to be imitated were increasingly found in Virgil, Horace, Cicero and other Latin rather than Greek authors. Theoretically the content of education aimed at a balanced development of intellectual, physical and moral potential, but like the Greeks, the Romans increasingly emphasized intellectual skills. Roman teaching methods were likewise as Greek as was the Roman syllabus. They were entirely passive. The most highly prized qualities were a good memory and powers of imitation. Competition was encouraged. . . . But the main stimulus was by way of coercion, reprimands and punishment. (Ibid., p. 366)

The Romans did differ from the Greeks, however, in the greater emphasis they gave to the utilitarian goals of education. This is evidenced by the increasing public concern for and control of education during the Roman
Empire (Ibid., p. 410-11). Also, in higher education, the apprenticeship system in the areas of oratory, or politics, medicine and law shows most clearly how education's practical usefulness was realized and put to advantage (Ibid., pp. 263, 341, and Part 3, ch. VI). A position in medicine, politics or law was only achieved after a formal training programme had been completed.

The principle weakness of Greek and Roman education was its lack of concern for how children learn. This weakness was not entirely unmitigated. The close relationship between pupil and teacher must surely have increased the pupil's motivation to learn, provided the accompanying discipline was not too harsh. At the end of the first century A.D., Quintilian argued that "zeal for learning depends upon inclination, a thing which cannot be forced" (Smail 1938, Book I, p. 31), and suggested that the skilled teacher will first of all seek to discover his [pupil's] ability and natural disposition (Ibid., Book I, p. 30). Three centuries later, St. Augustine stated in The Teacher that

he alone teaches me anything who sets before my eyes, or one of my other bodily senses, or my mind, the things which I desire to know. From words we can learn only words. . . . The meaning [of words] we learn not from hearing their sound when they are uttered, but from getting to know the things they signify. (Augustine, trans. Burleigh 1953, p. 94)

However, it was to be later educators that took up and developed these suggestions about the importance of pupils' interests, the need for full knowledge of the pupil and the significance to learning of first-hand experience,
matters of central importance to Open Educationalists. Generally though Greek and Roman education was an imposed process, largely unconcerned with the way children learn and allowing the pupil very little freedom or responsibility for his own learning. Its greatness lay in its clear conception of the fully educated ideal man and in the clarity with which it articulated the means of achieving this goal - a broad curriculum aimed at all-round development and transmitted on an individualized and intimate basis. In practice, however, the system petrified with the passage of time, not to be revitalized for over a thousand years.

The years that separated the Roman Empire from the Renaissance saw some interesting educational developments, at the courts of Charlemagne and King Alfred for example, and in monasteries throughout Europe. However, these developments throw little light on Open Education. The emphasis of scholasticism, upon monks working independently in their carrels, can hardly be taken as an early example of the Open Educational emphasis on independent discovery. Monastic intellectual activities were chiefly concerned with the "reduction of Christian doctrines to logical forms" (Nakosteen 1965, p. 180) and not with discovery as Open Educationalists understand it. Also, the monastic daily programme was very rigid in contrast with Open Education's flexibility. Alternatively, the developments of Charlemagne and King Alfred were short lived and isolated, and were not, therefore, part of an ongoing tradition (Lawrence 1970,
pp. 52-5; Nakosteen 1965, chs. 9, 10). Since the intention of this historical background to Open Education is to show how Open Educational ideas have developed over time, isolated educational incidents, which do not conform to any line of development, have no significant contribution to make to such a background.

The Renaissance period, on the other hand, drew many of its ideas, much of its knowledge and almost all of its inspiration from the Classical tradition. During the 15th and 16th centuries, the themes of Classical education as well as Classical art, literature and other matters were taken up and developed, the developments in all these areas being both extensions of Classical ideas and the evolution of new ones.

The significance of the concept of Humanism during the Renaissance is evidence of the close relationship between Classical and Renaissance times. The word humanism is derived from Humanitas, the word Cicero used to translate the Greek word Paideia. By calling themselves humanists, men of the Renaissance therefore linked themselves directly with a very important Classical concept, for paideia was the Greek word for education. However, for the Greeks, education meant immersion in the Greek culture, and particularly in the Classical literature upon which that culture was based. Consequently, paideia can also be translated as culture. Humanism was therefore a Classical concept of great significance with which the Renaissance made a conscious and explicit
connection.

The actual politics of the [Renaissance] day fostered a belief - and no one can deny that it was well founded - in the overwhelming significance of the individual in affairs, and especially the immense potentiality for good or evil that resided in a strong personality. It was inevitable, therefore, that an Italian Humanist should seize upon the notable figures of antiquity as illustrations of moral principle and action. (Woodward 1906, p. 17)

Here, as in Classical times, we notice the emphasis upon the "individual", the assumption that "strong personalities" would be men of affairs and the importance attached to "the notable figures of antiquity" - the ideal models of Classical literature.

Guarino da Verona and Vittorino da Feltre, fathers of Renaissance education, agreed that the subject matter of their teaching, "the educational apparatus to be employed", must in the main consist of the literature of Greece and Rome (Woodward 1897, p. 37). To Erasmus "the development of individual capacity and erudition through the study of a great civilisation was the true means to effectiveness in every honourable walk of life" (Woodward 1906, p. 117).

In fact, the content of the Renaissance curriculum depended upon the knowledge of the Greeks and Romans, for the "ancient tongues were the key to the only sound available erudition" (Ibid., p. 285).

Erasmus felt that individualism was to be encouraged by all available agencies (Ibid., p. 126). Like other humanists he was concerned that the man of affairs should be able, alone, to conduct himself effectively.
This Classical idea fitted well with another: "to Erasmus [a Dutchman] as to the great Italian humanists, education was training for social service in church, state and family" (Ibid., p. 177). Across the Channel, the three English authors of Institution of a Gentleman (Anonymous 1555), Queen Elizabeth's Academy (Sir Humphrey Gilbert 1572), and Institution of a Young Nobleman (Cleland 1607), also felt that public service was the end of a "gentle upbringing" whether it be the duties of a country gentleman or high office at court (Ibid., p. 296).

These aims were to be achieved, as in Classical times, through an all-round education. "The aim of Vittorino, the aim of the true humanist educator, was to secure the harmonious development of mind, body and character" (Woodward 1897, p. 36), and Vives, a 16th century Spanish humanist, maintained that education should train the character as well as impart knowledge (Woodward 1906, p. 189). Both Vittorino (Woodward 1897, p. 35) and Vives (Woodward 1906, p. 191), and also Sir Thomas Elyot, author of The Boke Named the Governour, (Ibid., p. 291) insisted upon regular daily exercise, for the purposes of stimulating mental activity and promoting a pupil's fitness for study.

Reliance on Classical literature, emphasis on the individual and public service, and insistence on all-round education mark out the Renaissance as part of the Classical tradition. But even in these similarities a movement away
from Classical times can be found.

Regular exercise became a reality in Renaissance education, although it was subordinated to intellectual development. It had lapsed in late Classical times, but earlier, when it had been considered important, physical exercise had not been subordinated. It had been considered equally as important to harmonious human growth as development of the other, moral and intellectual, faculties. The move towards a subordinate role for physical exercise is important for two reasons. First it indicates a change in the meaning of all-round education from equal, harmonious development of all faculties, to development of all faculties in such a way as will best promote intellectual development. Secondly the move results in an idea more similar to the Open Educational idea of all-round education, which stresses all-round development but gives reduced emphasis to physical activities, than to the Classical balanced concept of development.

Renaissance educators did lay great store by Classical literature, but emphasized its intrinsic value. Educators of the late Classical period had valued the literature for the models it made available for pedantic analysis and for imitation. Vives on the other hand wished his students to read Cicero and "become acquainted with Ciceronian rhetoric, not by directly copying him but by entering his spirit" (Ibid., p. 201), and Sir Thomas Elyot insisted that Classical poetry was to be enjoyed for its own sake (Ibid., p. 283). In the Renaissance, traditional analysis of the four senses of a
literary passage gave way to a desire to find out what the author's words meant "to a plain intelligence" (Woodward 1897, p. 38). The desire of Open Educationalists, that pupils enjoy their studies, understand them and get out of them what they can, is therefore not new. Comprehension and pleasure in education were sought by Renaissance educators over 400 years ago.

One other small change during this period was from the almost exclusive emphasis of Classical education upon producing politicians to a broader focus. A characteristic note of early humanism may have been that knowledge was desirable in proportion to the use which could publicly be made of it (Woodward 1906, p. 10), but interpretation of the word public was broader in Renaissance than in Classical times. Among schools of the first half of the 15th century Vittorino's school at Mantua was pre-eminent (Woodward 1897, p. 30). The principle of this school was that a true humanist education should lay the basis for any honourable career—business, architecture, the church, a life of letters, even school-teaching—as well as politics, law, the traditional professions, and medicine (Woodward 1906, p. 22). Again, this demonstrates the development of an idea adopted by Open Education, for Open Education equips students for no particular job. It concentrates on those skills that are considered of general use and that will enable a student to take up whatever work he desires. This indicates a further alteration in the notion of all-round development, not only
was it no longer interpreted as an evenly balanced development of all faculties, but also it was no longer development towards exclusively political ends, no longer only the development of one who would and could serve the state well. The curriculum also needed to change in order to promote this different kind of all-round development. The English Gentleman was expected to be learned and have "knowledge of tongues", to know how to "treat and maintain men of all degrees", to have some knowledge of music, to be fit for peace and fit for war, "meet for the court and meet for the country" (Ibid., p. 298).

The most significant departure from Classical education, however, was the inclusion of Christian emphases in the attitude educators held towards man. As a result, the Renaissance conception of the ideal man and the nature of Renaissance optimism both differed from the Classical view. In taking up his appointment at Mantua, Vittorino took with him "a desire to combine the spirit of the Christian life with the educational apparatus of Classical literature" (Woodward 1897, p. 27), because, above all, he was a Christian imbued with the spirit and the doctrine of his faith (Ibid., p. 21). Despite the principle of original sin, Christianity postulated man's innate potential for goodness, and the Reformation, following hard on the heels of the Renaissance, extended this idea. Man was justified by faith alone, and, alone, he could justify himself by his own faith. Renaissance and Reformation optimism was therefore far less fatalistic than
the optimism of Classical educators. Through faith, and the grace of God, perfection could be attained, and it was not an attainment rendered fruitless by death. Indeed, in death lay its reward for then were the perfect admitted to Abraham's bosom.

Another difference between Greek and Renaissance/Reformation optimism was the nature of the ideal towards which each era hoped man would develop. The Classical ideal was found in Classical literature; it was explicit, external and common to all. The Renaissance ideal taken up and developed by both the Reformation and Enlightenment periods, was internal, implicit and varied between each individual. Each person was expected to discover and develop his unique potential. Vives wrote that

there be certain fires or seeds . . . bred by nature in us, of the same justice, in the which that first father of mankind was made by almighty God: that little fire, if it might increase in us, it would bring us up into perfection of virtue and blessed living. (Watson 1912, p. 127)

Renaissance and Reformation optimism had a less clear goal than Classical optimism but it was still concerned with the achievement of an ideal. It is a further stage in the development of the optimistic attitude of Open Educationalists who do not try to mould pupils, but optimistically believe they desire to learn and will develop satisfactorily according to their individual nature.

The most notable developments, made during the Renaissance, of ideas that are like those of Open Education,
were concerned with the circumstances and the methods of education. These developments were original and no longer depended upon Classical education for breaking the ground.

Vittorino (Woodward 1897, p. 32) and Vives (Woodward 1906, p. 191) believed that education should take place in bright, pleasing and wholesome surroundings.

The Greeks had considered the home and early childhood a time and place of educational significance and gave to a child's "pedagogue" - a family servant - the responsibility for the child's moral welfare and development (Marou 1956, p. 201). But they paid only little attention to early childhood development. Examination of this area was also slight in the Renaissance, but Erasmus did devote De Pueris to an examination of the early years. He emphasized the importance of early impressions, of bodily fitness and of instilling the elements of Christian faith. Significantly he advocated the use of natural objects, such as animals, or the garden and furnishings of the home, in developing vocabulary and instructive conversation (Woodward 1906, p. 119). No doubt such had been the practice since the beginning of language, but its formulation as a pedagogic principle paved the way for further developments in early childhood education.

Erasmus also contributed to the field of psychology. He hypothesized (Ibid., p. 116) that the psyche was tripartite, consisting of the natura or innate endowment - divided between those aspects common to all men and the special bent of an individual -, the ratio or capacity for thought, and the usus
or application or practice of what is learnt. His conception of the natura as malleable and eager to respond to external impression sufficiently justified his belief that the effect of wise education was limitless, while neglect, or perverse training, may drag down even a nature of promising capacity. Most humanists who stood outside the influence of the Reformation adopted the same theories about man's psyche but they were not as empirically sound as Vives' work on memory. Vives' research led to two sound pedagogic principles: learning is facilitated by careful arrangement of subject matter and by carefully stimulated enthusiasm and interest.

For the first time, the need for organizing material according to the way a child learns, and the need for exciting his interest, principles very dear to Open Educationalists, were clearly explained and justified (Ibid., p. 187).

Renaissance statements on the appearance of the school, the importance of the home and the psychology of the child were outweighed by the stress laid on fully knowing each pupil. Erasmus believed that success in education depended upon discerning the natura of the pupil, and the "taste, bent and special powers" that distinguish him (Ibid., p. 119).

Vittorino

firmly refused to increase the number of his students beyond a limit which made it possible for him to exercise direct personal supervision, and to gain an intimate knowledge . . . of the taste, capacity and industry of each scholar. (Woodward 1897, p. 19)

"This, with his readiness to adapt thereto his choice both of subject and of treatment, secured the unique success for which
his school was celebrated." (Ibid., p. 63) His language, which was always simple and direct, was adapted to the intelligence of individual scholars (Ibid., p. 46), for he realized that pupils differed and were not all capable of study. He devoted every evening to the tutorial preparation of individual scholars (Ibid., p. 62), but refused, "after fair trial made", to force learning upon one who was unwilling (Ibid., p. 34). However, intimate knowledge did not imply an intimate relationship. Vittorino considered himself the father of his pupils rather than their companion (Ibid.). Vives said that the teacher-pupil relationship should be marked by gravity and friendliness, but not familiarity, he also recommended quarterly conferences on every student (Woodward 1906, pp. 193-4). Sir Thomas Elyot also made an eloquent plea for recognizing and encouraging worthwhile pupil interests.

If the child be of nature inclined (as many have been) to paint with a pen or to form images in stone or tree, he should not be therefrom withdrawn or nature be rebuked, which is to him benevolent; but putting one to him which, in that craft wherein he delighteth, be most excellent, in vacant times from other serious learning, he should be in the most pure wise instructed in painting or carving. (Ibid., p. 278)

In Renaissance times therefore, in addition to emphases upon the individual, his all-round development, his individual nature and the intentional usefulness of his education, heavy stress was laid upon knowing the child. Consideration was also given to home background and important psychological advances were made. All these matters are of
great importance to Open Education. It also emphasizes the importance of each pupil, his nature, his psychological state of development, and the relevance of education to his needs, and it stresses the importance of knowing the pupil in order to follow up all these emphases.

The Renaissance therefore changed ideas formulated in the past, developing ideas very similar to those of Open Education. But the Renaissance lasted for more than two centuries and spread throughout Europe, and the developments were neither universal nor co-ordinated. In this analysis alone, reference has been made to Italians, Englishmen, a Dutchman and a Spaniard. They were not ignorant of the work of others, but nevertheless they did pursue their own particular interests and theories.

During the early years of the Renaissance the Classical tradition in education had been adopted internationally in spirit, content and method. The tradition had changed in different times and different countries, but not significantly. However, towards the end of the Renaissance period, distinctively national flavours were introduced into the process of education.

The Englishmen, Cleland, Sir Thomas Elyot and Sir Humphrey Gilbert, produced their works on education at the end of the 16th century (Woodward 1906, ch. 13). Their emphasis upon the close adult supervision of education, upon man developing his excellences and upon his obligation to serve the state, mark them out as part of the Renaissance-
Classical tradition. Yet their work is different from that of the Italians and other Renaissance humanists. It does not express the same religious fervour, nor does it advocate close study of Classical literature. Skills are developed "from new sources as well as old" (Ibid., p. 301). The curriculum proposed for Queen Elizabeth's Academy was history, science - the study of the human physique and military machines - law, divinity, and the gentle arts - languages, literature and music (Ibid., pp. 303-6). Such a curriculum displays an independence from the mainstream Italian Renaissance and a move towards the freer development of curriculum according to particular sectarian needs. It was a curriculum intended to develop Gentlemen, and English Gentlemen at that.

During the latter part of the Renaissance, there was, therefore, a move away from the international curriculum of the Classical tradition towards a more independent, parochially oriented curriculum. This can be seen as a stage in the development of an idea very like an Open Educational idea, in addition to all the developments listed above. It likewise insists that the curriculum must both fit into and take advantage of particular local circumstances, but they go one step further. Not only concerned with making the curriculum parochially oriented rather than national or international, Open Educationalists wish it to be individualized, fitted specifically for the particular needs and interests of each pupil.
Comenius, writing in the middle of the 17th century, is characteristic of none of the great traditions of educational thought, though he partakes of them all. Examination of his work shows that it is eclectic and often confused.

Since he lived between the Renaissance-Reformation era and the time of the Enlightenment, it is perhaps not surprising that, despite the apparent conflict of ideas, we find in Comenius' work both the Classical notion of shaping and the Enlightenment's deep respect for a child's inborn nature. "Children do not train themselves spontaneously but are shaped only by tireless labour" (Comenius 1629, ch. III in Sadler 1969, p. 35), yet "we must comply with nature and permit students whatever their level of maturity to do that in which they find pleasure at the time" (Comenius 1660, p. 112 in Sadler 1969, p. 35). Comenius believed in the existence of fundamental laws that would explain and justify his faith in the unity of the universe, and made unsuccessful and generally confusing attempts to discover them throughout his life (Sadler 1969, pp. 16, 124-6). These attempts were representative of neither the Renaissance reliance on classical erudition, for Comenius developed his own original thoughts, nor the Enlightenment emphasis on clear reasoning.
because they were not clear. But the attempts do accord with the optimistic faith in man's potential that both the Renaissance and the Enlightenment displayed. A final example of both his eclecticism and confusion was his attempt to develop a theory of physics, a "Naturall Philosophie", and justify the theory by reference to the Bible or "Divine Light" (Ibid., p. 19). Such an exercise in analyzing nature and combining such an analysis with Christian doctrines, carries overtones of such disparate sources as the Thomist synthesis, Renaissance and pre-Renaissance reliance on authorities, the Reformation's concern for revitalizing Christianity and the desire of the Enlightenment, that was still to come, to discover the mathematical laws of nature.

The interaction of past influences, the then current development of ideas, and the personality of Comenius himself - he seemed unable to complete fully any project he took up - produced in his work a combination of ideas, wide-ranging but lacking in coherence. In spite of this, Comenius is a significant bridging figure between the Classical and modern traditions.

Sadler insists it is true that

Comenius started off with the assumption that what he considered to be the child's need was correct and that all children were by nature imbued with an innate desire for the kind of education he proposed for them. (Ibid., p. 94, emphasis in original)

It is therefore consistent that Comenius advised teachers to guide pupils continually, making sure they never strayed from the right path. Indeed the pupil was not to proceed without
such a guide (Comenius 1645, p. 27 in Sadler 1969, p. 120). As well as guidance in intellectual pursuits "youth ought to be instructed with great care as to actual obedience, since it afterwards becomes the foundations of greatest virtue" (Comenius 1629, ch. IX in Sadler 1969, p. 101).

Comenius proposed the same curriculum for all and said that all pupils should be treated alike. Classical formal education displayed the same attitude, despite the individual attention paid to pupils. Since all men were made in the likeness of God, Comenius felt that "where God had made no distinctions, it is undesirable for any man to make them" (Comenius 1645, ch. II in Sadler 1969, p. 42). But he did modify this assertion, recognizing differences in character while saying that no distinctions should be made on the basis of race, sex or social status (Comenius 1628, pp. 18-24 in Sadler 1969, p. 43).

Comenius' optimistic faith in man and man's potential, echoes Jaeger's interpretation of the Greek view of man:

One of the means through which man can reach his goal is man himself; he is so made that he can achieve perfection if he so desires; and he does so desire and he is capable, if he is rightly informed in the matter. (Comenius 1645, p. 15 in Sadler 1969, p. 126)

At the same time this optimism that man both desires and has the capacity to achieve perfection through being rightly informed, is similar to the optimism of Open Education. An Open Educationalist optimistically believes that children have the desire and capacity to learn.

As did the Greeks, Comenius thought a pupil must be
"rightly informed" if he is to attain perfection, but he also seems to have shared with Rousseau and later educators the sense that this perfection was latent within man.

"Everyman," he said, "has inborn in him the desire to know, to enquire into things which may be known." (Comenius 1668, p. 4 in Sadler 1969, p. 66). Moreover, "it is evident that man is naturally capable of acquiring knowledge of all things since he is the image of God." (Comenius 1628, ch. V in Sadler 1969, p. 20). Such statements explain his belief that all men would respond to the truth if only it were put forward clearly enough (Sadler 1969, p. 63). The urgency for presenting the truth, that had so far been discovered, and for correctly guiding every young person, in their willing pursuit of it, persuaded Comenius of the need for universal education (Ibid., p. 64).

Comenius' belief that children's development should be carefully guided in the attainment of perfection was an old belief. His interpretation of innate potential was an extension of Renaissance ideas. But his insistence that man desires to learn and that universal education must be provided to satisfy this desire properly is new. Classical education had been for the wealthy. Vittorino had favoured equal educational opportunity, no matter what a pupil's social background, but only for those with "real ability" (Woodward 1906, p. 11). Comenius was the first great educator to propound the principle, so accepted by Open Educationalists they do not bother to express it, that
education should be made available to all.

Comenius' proposed curriculum was not based on the classics; they were not even a major component and this was also a new departure. Various reasons can be given for this move. His curriculum was intended for all social levels; the popularity of Latin, particularly its use as a lingua franca was in decline; and Comenius had a somewhat low opinion of Classical scholarship. What he did desire was that all men would

learn the principles, the causes and the uses of all the most important things in existence. . . . For we must take strong and vigorous measures that no man . . . may encounter anything so unknown to him that he cannot pass sound judgement upon it and turn it to its proper use without serious error. (Comenius 1628, ch. XX in Sadler 1969, p. 75)

The content of Comenius' curriculum was general knowledge, "the use of everything taught be[ing] continually kept in view" (Comenius 1628, ch. XVII in Sadler 1969, p. 83). The modern cry for relevance can be found in this, said clearly and concisely over three hundred years ago.

That all knowledge taught should be useful, implies that education should pursue an exclusively utilitarian goal, ignoring its intrinsic value. Comenius did want "all schooled in earnest industry", and also said that "inasmuch as everyone ought to be competent to serve God and useful to man, we maintain that he ought to be instructed in piety, in morals, and in sound learning and health" (Comenius 1629, ch. IV in Sadler 1969, p. 67). But he was equally concerned that pupils possess a breadth of knowledge, valuable for its
own sake, because it is known to be useful, as well as knowledge exclusively directed towards a pupil's future work. He is "well assured that everyone may and should be eminent in his profession and also know all things that are necessary" (Comenius 1642, p. 8 in Sadler 1969, pp. 22-3, emphasis added).

Comenius realized that the products of universal education would not be the same as those of Classical and Renaissance education. They would not all be politicians or men of social significance. He therefore concentrated on transmitting that knowledge that would be useful to all men whatever their social circumstances, job or profession. This seems to be precisely the aim of Open Education, though the differences between the 17th and 20th centuries make for different useful knowledge.

Comenius' conception of curriculum content was very general. He emphasized three sources of knowledge: one, the physical universe, which was "open to be read in every clime and in every age and by all men"; two, "notions of the human mind", and three, divine revelation, as evidenced in the Bible, "for ever unveiling more mysteries to those who reverently scan it" (Comenius 1668, pp. 9-11 in Sadler 1969, p. 72). Such sources were appropriate to an age still dominated by religion and dependent for much of its knowledge upon the work of past authorities - the notions of previous great human minds. Though appropriate to the 16th century, this knowledge is of the propositional kind - knowledge that
such and such is the case - and is therefore strongly contrasted with the procedural knowledge that Open Educationalists consider important for 20th century life. Despite the contrast, it is still important that Comenius emphasized the importance of useful knowledge, for Open Educationalists also lay great stress on this point.

The sources that Comenius emphasized give a clue as to how the knowledge was to be handled. It was not to be divided up into subjects; the physical universe, notions of the mind and divine revelation are not academic subjects in any traditional sense. In fact, Comenius insisted on the deliberate integration of knowledge. Integration of subjects had taken place in Classical education because the great works of Classical literature covered the whole range of available knowledge. Studying the single 'subject', classical literature, therefore involved studying all the other subjects that were contained within this literature. However, Comenius is the first educator to insist that knowledge be deliberately integrated.

The underlying aims of the "Pansophic" theory of Comenius was to be able to grasp reality as a whole (Sadler 1969, p. 24). To look at things as fragments was to have a distorted view of them and in this distinction Comenius detected the origin of many evils of mankind. His Outline of a Pansophic School proposed that

training shall be carried out in a way so consistent
that everybody who has been led along it may have the knowledge and understanding necessary to relate all things together and to be able to apply this knowledge properly and be able to express it adequately. (Comenius 1657, p. 4 in Sadler 1969, p. 81)

Open Educationalists argue in favour of subject integration because it matches the integrated manner in which they see children develop. But they also believe that subject divisions are artificial and are not truly representative of the way in which children understand the world, nor of the way in which one uses knowledge, nor of the reality of a single "whole" world. Again then we may see in much more than embryonic form similar ideas that many assume are original to Open Education.

Comenius' contribution to learning theory is very much in line with that of Vives. He said that the senses "are the door through which everything enters" (Comenius 1660, corollary to Axiom LXXII, in Sadler 1969, p. 30), and that "the ground of the business [teaching] is that sensual objects be rightly presented to the senses" (Comenius 1658, preface in Sadler 1969, p. 30). Medieval thinkers had made use of the Aristotelian tag "nil in intellectu quod non prius in sensu", and St. Augustine had said we learn the meaning of words by getting to know the things they signify, but only with Vives and Comenius was this adopted as a pedagogic principle. Comenius stressed the importance of stimulating student interest (Comenius 1629, ch. VII in Sadler 1969, p. 35) and of carefully ordering the subject matter presented to the pupil. He justified his theory, that children learn
best that which is carefully ordered, experienced at first-hand and of interest, by saying that such a process conforms with nature. "Orderly arrangement of things and words brings order into our concepts. Thus the natural order of things will prove in itself a powerful aid to memory" (Comenius 1660, Axiom CXI in Sadler 1969, p. 46). And if we allow children to pursue their own interests "we shall not struggle against nature, but rather act as midwives in her travail" (Comenius 1660, Axiom CXII in Sadler 1969, p. 35). Though derived intuitively rather than empirically, it can be seen that this justification is similar to the Open Educationalists' belief that children naturally learn best what they want to learn, what is in order with their present stage of development and what they can discover for themselves or what is derived from first-hand experience. It is also interesting that the Open Educational view of the teacher as a facilitator of learning resembles Comenius' idea of the midwife.

Evidence in support of these beliefs about learning can be found in the work of Jean Piaget. He has demonstrated the importance of activities that both match a child's stage of intellectual development and provide first-hand experience. Of more importance, however, is Piaget's work on the stages themselves. Yet in the range of activities that Comenius proposed for different ages, we find a hint of just those stages of concept formation that Piaget has propounded four hundred years later (Sadler 1969, p. 76).
Vittorino had truly known his pupils, and Vives' suggestion for three-monthly teacher discussions was also intended to promote full knowledge of each pupil. Comenius' emphasis upon continual guidance and upon a pupil's interest, experience and ordered development was an expansion of the same theme. It is a theme that has been taken up with much emphasis by Open Education, where a teacher is expected to have a broad knowledge of the child.

In the tradition of Classical and Renaissance education, Comenius considered the family a fundamentally important early-educational institution. It was within the family that the child first began to learn through his play. Open Educationalists consider, as did Comenius, that play is the chief activity of one's early years whether one plays with the family or at school. Erasmus and other educators previous to Comenius had realized that play was the natural activity of children but had not bothered seriously to examine its importance. Comenius considered it important because it was pleasurable, and natural, and because children needed to be kept constructively active in play for "inactivity is more injurious both to mind and body than anything in which they can be occupied" (Comenius 1629, ch. VII in Sadler 1969, p. 34). His belief that in play children "exercise their bodies to health and their minds to vigour" (Ibid.), resembles current theories about the relationship between play and intellectual development, theories which Open Educationalists employ in defence of their emphasis on play.
In very many respects Open Education seems to be a restatement of some of the ideas of Comenius. He called for universal education in which useful knowledge of interest to the pupil was transmitted in an integrated fashion. He had faith in a child's desire to learn, recognized the importance of play and wished teachers to know a great deal about their pupils. But Comenius did not advocate individual research and discovery, and failed to give pupils the freedom and self-responsibility that Open Educationalists consider so important. Comenius' theories are distinguished from modern ideas both by his reverence for the Bible and other traditional authorities, and also by his concern for continually guiding and shaping pupils despite his interest in their individual nature. In fact, Sadler suggests that Comenius dragged nature along "like a dog on a leash" (Sadler 1969, p. 82). It is not until we get to Rousseau that nature is put in the lead.

The dichotomy between Comenius' desire to direct nature and Rousseau's insistence that it be followed, indicates a basic disparity between their educational proposals. The differences of time and circumstance between the lives of both, contribute to this disparity. In spite of this, Comenius and Rousseau form a bridge passage between the Classical tradition and the largely modern proposals of Pestalozzi, Froebel, Montessori and Open Education itself. It has been shown that although Comenius' work displays Classical characteristics, there is much similarity between it
and Open Education. On the other hand, Rousseau's proposals reflect little that is Classical and are even closer to those adopted by Open Education. However, as Comenius is not in the Classical camp, so Rousseau is not in the camp of Open Education. Industrialism and universal education have greatly influenced the nature of formal education from the mid-19th century onwards, but Rousseau was free of their impact. More particularly, Rousseau was a theoretician, not an educational practitioner. This does not make his attitudes any less similar to those of Open Education, but it does distinguish him from Open Educationalists who are pragmatic and action oriented in their approach.

During Louis XIV's reign France came to dominate European culture and such was still the case when Emile was published, over 45 years after Louis' death. However, Rousseau did not see the self-satisfied superiority of French society as a worthy achievement, he believed that men "are depraved and perverted by society" (Rousseau 1762, p. 198). Such diverse evidence as the self-indulgence of the salons, the cynical description of society that Voltaire gave in Candide and the circumstances of the French Revolution, which began just thirty years later, does not discredit Rousseau's belief.

He also seems to have had a natural aversion towards society. Emile was written between 1757 and 1762 while Rousseau was in the countryside which he loved. Later he was forced into exile by the reaction to certain passages in
Emile and he preferred to live his last years in the country, in poverty and seclusion, rather than the comfort that his fame - or notoriety - put within his reach (Ibid., Intro., p. v). He both considered society evil and chose to avoid it.

Rousseau's opinions, however, were not always contrary to those of society. He encouraged what was particularly evident in French society - self-love. "Our first duties are to ourselves" (Ibid., p. 61), Rousseau wrote and "every substance in nature and every work of man must be judged in relation to his own use, his own safety, his own preservation, his own comfort" (Ibid., p. 150). "Self-preservation requires that we shall love ourselves" (Ibid., p. 174). This selfish emphasis upon the individual is made less harsh by Rousseau's emphasis that we extend it to others, when "it is transformed into a virtue" (Ibid., p. 215). Nevertheless, it does show the importance that Rousseau both attached to each individual and expected each individual to attach to himself. It also contrasts directly with what previous educators said about the duties of man; to them, man's duty was to the state; to Rousseau, man's duty was to himself.

Such self-appreciation was encouraged by Cartesian philosophy which promoted the belief that man could discover truth through exercising his reason (Ibid., p. 229). In satirizing the faith that men had in reason, Candide indicated that this faith did exist, and that men of the 18th century considered they were living in an "Age of Reason". Rousseau
did not escape the influence of the optimism that such a faith is heir to.

Optimism about man's intellectual capacity was accompanied by optimism about man's moral potential. Rousseau believed that man was by nature good (Ibid., p. 198), "God makes all things good" (Ibid., p. 5). He then said that "man meddles with them and they become evil" (Ibid.). Considering this, along with his gloomy views of society, it might be expected that this innate goodness was of no consequence to Rousseau. He seems to expect man to become evil inevitably. However, the development of Emile suggests that Rousseau is in fact optimistic about man's moral potential.

His emphasis upon self-love, reason and the rejection of society are reflected in Rousseau's aims for education. He believed that "to make a man reasonable is the coping stone of education" (Ibid., p. 53). A pupil must not be taught someone else's judgement, however, he must form his own (Ibid., p. 150). He must be able to judge rightly the answer to Rousseau's sacred formula, which was the question "what is the use of that?" (Ibid., p. 142), and "to judge rightly of good and evil in human society" (Ibid., p. 153). Essentially his education should enable him, alone, to cope with life, for "there is only one man who can get his own way - he who can get it single handed" (Ibid., p. 48), and "he is best educated who can best endure the good and evil of life" (Ibid., p. 9). In making a man self-sufficient and
providing all useful knowledge, "a natural education should fit a man for any position in society" (Ibid., p. 20); a breadth of purpose first suggested in the Renaissance and an important aspect of Open Educational thinking.

The education envisaged by Rousseau in *Emile*, like that of Classical and Open Education, was intended to promote all-round development. The ability to make right judgements was, he thought, affected by one's physical health.

To learn to think we must exercise our limbs, our senses, and our bodily organs which are the tools of our intellect, and to get the best use of these tools, the body which supplies us with them must be strong and healthy. (Ibid., p. 90)

Rousseau also spent much time considering moral development, which he defined largely in terms of developing feelings towards others.

To become sensitive and pitiful the child must know that he has fellow creatures who suffer as he has suffered, who feel the pains he has felt and others which he can form some idea of, being capable of feeling them himself. (Ibid., p. 184)

He hoped to show that "justice and kindness are . . . no mere moral conceptions framed by the understanding, but true affections of the heart enlightened by reason" (Ibid., p. 196).

Rousseau described activities that could be used in educating children. Of more significance, however, is his description of a particular attitude towards it. He is famed for saying that "the education of the earliest years should be merely negative. It consists not in teaching virtue or truth, but in preserving the heart from vice and from the spirit of error" (Ibid., p. 57). Despite their greater concern for
the practical than the theoretical, Open Educationalists, like Rousseau, also desire to promote certain attitudes, for example optimism, and concern and respect for each individual pupil. In many respects they have an attitude similar to Rousseau's with regard to negative education: they allow pupils to choose from a range of activities and prefer a child to discover a concept through personal experience rather than be instructed in it by book or teacher. In this way they hope a child's natural curiosity will not be dulled. However, Rousseau's suggestion for negative education, that you should "reverse the usual practice and you will always do right" (Ibid., p. 58), does not appear to be an explicit policy of Open Education. Open Educationalists have not, for example, suggested that the most fundamental aspect of traditional education, the school itself, be eliminated though they do suggest that more activities take place outside the school.

The specific instructions that Rousseau did make to teachers could almost be contained in a manual on Open Education, which is a measure of its indebtedness to him. Zealous teachers were advised to be "simple, sensible and reticent" (Ibid., p. 60). The pupil was never to be told what he ought to learn (Ibid., p. 142), in fact he was to be told very little, only as much as was needed to whet his curiosity (Ibid., p. 135). As a general rule the teacher was never to "substitute the symbol for the thing signified" (Ibid., p. 132) and in this way it was hoped that "all lessons of young people take the form of doing rather than talking,
let them learn nothing from books that they can learn from experience" (Ibid., p. 124). Nature was to be the primary source of experience, for "education comes to us from nature, from men or from things" and the goal of education is the "goal of nature" (Ibid., p. 6). In this context, Rousseau defines nature in terms of an individual's disposition, and talks of developing "habits conformable to nature" (Ibid., p. 7). Although the education of Emile shows that Rousseau also places much emphasis on "Mother Nature", the physical world.

Rousseau's proposal that tutor and scholar should be inseparable, and so "learn to love one another" (Ibid., p. 20) may not be appropriate to a situation of mass, universal education. However, the fact that Open Educationalists wish to teach on an individualized basis, which is just how Rousseau taught Emile, and that they wish for a close relationship with their pupils, indicates that their intent is similar to his.

Other specific points made by Rousseau were his recognition of childhood as a vital, independently important stage of growth (Ibid., p. 44), and his description of the stages of intellectual development, which was clearer than Comenius', and more similar to Piaget's (Ibid., p. 7).

These proposals show Rousseau to be the first great proponent of child-centred education and of extensive freedom in education. He made the significant break from previous adult-dominated methods of education. For Rousseau, the
ideal educated man had fully developed his natural potential, or disposition, irrespective of any external ideals or expectations. Indeed Rousseau almost totally rejected the influence or requirements of society: early education is to be negative and an individual's duty is to himself, he need only learn those skills and knowledge of use to him and which he wants to learn (Ibid., pp. 141-2). This contrasts him strongly even with Comenius who says many things that modern educators reiterate yet still insists on man's obligations to society.

Though it is true that Rousseau's proposals contradicted much that educators previous to him had said and advocated far more freedom than they had, he did not propose freedom without limits. "Negative" education has the positive responsibility of "preserving the heart from vice and from the spirit of error" (Ibid., p. 57) and "the essential point" of Rousseau's method is "do not teach the child many things, but never let him form inaccurate or confused ideas" (Ibid., p. 134). Comenius also said that "no first attempts should be made without a guide... [for] it is better not to advance should this involve proceeding in the wrong direction" (Comenius 1645, ch. VII in Sadler 1969, p. 120). The intent of which is not very different from the intent of what Rousseau wrote. Depending on the breadth of one's beliefs, keeping a child from what one believes he should not do, need not be very different from having him do what one believes he should. In some respects Rousseau is
quite authoritarian. He says a child should "never have his way if he uses tears to get it" (Rousseau 1762, p. 50) and "if there is something he should not do, prevent him . . . put him in his place from the first and keep him in it" (Ibid., p. 55). In breaking with the past, Rousseau did not propose freedom with licence, adults were still to make their presence felt.

Although many of Rousseau's proposals would not be out of place in a manual on Open Education, he was not a practitioner of education, and *Emile* should be read as a theoretical treatise, not as a guide to practical methods. This point contrasts Rousseau with Open Educationalists who are far more concerned with practice than with theory, and there are other matters of contrast. He did not consider the need for, or the problems of universal education, nor did he discuss the integration of subject areas. Comenius had written about both of these. In addition, the individualized circumstances of Emile's education clearly distinguish it from the circumstances of Open Education which takes place in classes of over 30 pupils. However, the following summary of Rousseau's ideas shows that he is greatly responsible for propounding and extending ideas similar to Open Education's.

Rousseau saw the importance of childhood as a stage of development, and delineated this and other stages describing activities appropriate to each. His descriptions have been largely substantiated by the work of Piaget. He considered that to make a man reasonable, and capable of
independently making right judgements was the chief aim of education. He proposed a close and loving relationship between teacher and pupil. His basis for moral development was respect for others rather than adherence to established rules of conduct such as the ten commandments. All of these points are accepted and endorsed by Open Educationalists. Although they had been made before, Rousseau does not justify them by reference to traditional authorities, as had previously been the case. He justified them by reference to the nature or disposition of the child, as he saw it, and to the circumstances of his time. This is a major reason why he is important to Open Education. Open Education similarly justifies its actions by reference to what is known of child psychology and to its interpretation of present day society.

However, the above is not a complete list of Rousseau's contribution to the development of ideas like Open Education's. He also stressed the importance of the individual, irrespective of his contribution to society, and insisted upon a large measure of freedom for the pupil. These contributions were his most important because they had never before been made with such emphases, and because they are ideas so fundamental to the Open Education approach. For Open Educationalists, the individual pupil is important for his own sake and only incidentally for any contribution he may make to society. The skills he learns are for personal survival, rather than the survival of society, and this is exactly what Rousseau
As for Rousseau's emphasis on freedom, it is the implications of this emphasis that are crucial. Rousseau interfered only minimally in Emile's learning process. Emile was free to consider and explore at will the few suggestions Rousseau made or questions he asked, and the activities Rousseau set up. Emile was free to express his own needs and interests which Rousseau, without imposing, helped him to satisfy. Behind the granting of this freedom lies the optimistic assumption that it will be well used. Rousseau optimistically assumed that Emile desired and had the capacity to learn, and this is exactly the nature of the Open Educationalists' optimism. In accordance with this optimism, they too respect an individual's needs and interests, they too let pupils choose the activity they will perform, and they too encourage a pupil to find things out for himself.

Whereas Comenius had strong ties with the Classical tradition, despite his development of some ideas adopted by Open Education, Rousseau largely broke with the past and in fact promoted several ideas very close to those of the Open Educational approach.
The works of Pestalozzi, Froebel and Montessori were published at different times, influenced by different outlooks, and written by very different people. Pestalozzi's work was written at the end of the 18th and the first quarter of the 19th centuries. The Education of Man, by Friedrich Froebel, was first published in 1825, while Maria Montessori wrote The Montessori Method in 1909. Pestalozzi, despite his humanity and high intentions, was not forceful enough to hold together and direct an educational institution for any extended length of time. He also had problems clarifying his ideas, and expected to "remain in a kind of fog about most of his views until his grave" (Gutek 1968, p. 53). Froebel's work was evangelistic. He was successful in establishing educational institutions, despite conflicts with the Prussian government, and skillful in developing and clearly explaining a thorough pedagogical system. Montessori, the first female Italian doctor, had a more scientific outlook than her male predecessors, producing a sound, theoretical exposition of practices whose efficacy she had already proved.

Although she had a strongly Christian outlook, Montessori was concerned to produce an educational system that was scientifically and empirically based, one that matched the
spirit of her times. Froebel and Pestalozzi on the other hand had a more old-fashioned outlook, that depended greatly on religious faith, and their educational proposals were more traditional and less scientific. Pestalozzi proposed that many children should be taught together (Gutek 1968, p. 123) and his language lessons employed a repetitious system, like that of the Greeks, which proceeded from the simple - consonants and vowels - to the complex - whole words and sentences (Ibid., p. 111). Because of his highly religious nature, Froebel repeatedly emphasized the divine unity of the universe despite its apparent diversity. No doubt influenced by the concept of the Trinity, he often divided problems into three - for example, subject areas he divided into religion, nature, language; activities of man into manual work, academic learning, spiritual reflection; perhaps most fanciful of all, in language he evolved "the law that vowels represent the inner or unity, consonants (mutes) the outer or individuality, and semi-vowels (continuants and sonants) the mediations or diversity" (Ibid., p. 216).

In spite of all these differences, Pestalozzi, Froebel and Montessori will be considered together. Unlike all previous educators, the proposals of each of these three are directly applicable, as a whole, to today's society and are currently employed in institutions through the Western world. Unlike Rousseau, they were all practitioners as well as theorists. This does not distinguish them from previous educators, but they are distinguished by the influences upon
and the intentions of both their practical and theoretical work. Each of them considered as axiomatic that education should be provided on a universal basis to all social classes, and that it should meet the circumstances of an industrial society, for it was in the time of these educators that the impact and perpetually extending influence of the industrial revolution were felt. They were the first educators to propose systems of education that within a very few years and on a wide basis, were adopted by others, outside their immediate sphere of influence. Other educators had been influential. For example, Vittorino and his contemporary Castiglione, who wrote The Courtier, influenced educators throughout Renaissance Europe, and Comenius attracted much attention outside Moravia through his "Pansophic" theory of knowledge and his Latin textbook Orbis Pictus. But unlike Pestalozzi, Froebel and Montessori, the influence of none of these three resulted in the adoption of a coherent educational system.

These circumstantial similarities distinguish Pestalozzi, Froebel and Montessori from their predecessors. However, it is the similarity of many of their educational proposals to those of Rousseau, Open Education and each other that is the real justification for here considering them together.

From the time of Plato to today, educators have expressed optimism about man's intellectual capacity, and about his desire to learn. Morally, man has also been
optimistically considered capable of achieving an ideal. In the Classical tradition this ideal was explicit and external, derived from ancient Greek and Roman literature. During the time of the Reformation, the moral ideal came to be seen as an individual matter, a development of an individual's own potential for good, rather than a conforming to another's conception of the ideal. This latter form of optimism about man's moral potential was essentially Christian, for although it involved personal interpretation and individual development, it also involved acceptance of the Christian code of behaviour. Pestalozzi (Ibid., p. 18) and Froebel (Froebel 1885, p. 120) both considered man naturally good, and both of them echoed Rousseau's belief in saying that it was distortion of this goodness and a distorted environment that produced evil (Gutek 1968, p. 35 and Froebel 1885, p. 119). To combat the development of evil, they were again both agreed: education was the answer. In Leonard and Gertrude Pestalozzi suggested that "the true road to social reform lies in the peaceful process of education" (Gutek 1968, p. 35) while Froebel emphasized the redemptive power of religious instruction, his principal subject: "it quickens, confirms, explains the feeling that man's own spiritual self, his soul, his mind and spirit, have their being and origin in God and proceed from God" (Froebel 1885, p. 140).

Montessori's approach to the problem was neither so overtly Christian - it was more biological and scientific -
nor did her optimism about her pupils' moral potential involve the manipulation that Pestalozzi and Froebel's approaches implied. Nevertheless, she has the same attitude towards the spirit, the same sense of natural development from within, and explains this belief more clearly than most.

The origins of development, both in the species and in the individual lie within. The child does not grow because he is nourished, because he breathes, because he is placed in conditions of temperature to which he is adapted; he grows because the potential life within him develops, making itself visible; because the fruitful germ from which his life has come develops itself according to the biological destiny which is fixed for it by heredity. (Montessori 1912, p. 105)

The influence of her medical background is clearly apparent. However, it must not be assumed that her explanation is purely mechanistic for her approach to education was never simply that. Montessori also expressed herself in traditionally religious terms. As a result of her method she said that children

have set their feet in the path leading to righteousness, simply because it was the only way to attain true self-development and learning; and they enjoy with simple hearts the fruits of peace that are to be gathered along that path. (Ibid., p. 369)

This, with the unqualified use of the word "have" rather than a refutable "will", is a measure of Montessori's optimism. To be optimistic is, generally, to expect good rather than evil to occur, but Montessori expected only the good and did not admit even the possibility of evil.

This consideration of the attitudes of Pestalozzi, Froebel and Montessori illustrates two points: it illustrates that the nature of the optimism about man's moral potential had
changed; the attitudes of these three differed from the Greek notion of moulding a pupil's moral being, of turning his soul towards a predetermined light. Also it illustrates the relative poverty of the optimism of Open Education. Phrases such as natural goodness, the path of righteousness, developing a sense of unity with God, no longer appear in educational discourse. Whether or not such discourse is more realistic for this, lack of the attitudes that such phrases express, means that Open Education has no sense of a moral ideal. It promotes moral or value development, but it has no clear sense of direction for this development. Hopefully the child will do right rather than wrong, and be good rather than bad, but it is for the child to define these terms. (Raths, Harman and Simon 1966)

In this context, Open Education does involve guidance work with pupils. Also the moral development of a child can be enhanced through a teacher's knowledge of and concern for a pupil, and this, Open Education advocates. Pestalozzi, however, subordinated all other development to moral development (Heafford 1967, p. 50) and he emphasized, as do Open Educationalists, a secure and loving environment for "goodness is stimulated more by love than coercion" (Gutek 1968, p. 67). Froebel's emphasis on moral development, through religious instruction, has already been referred to (p. 66). As is to be expected, Montessori's approach to moral development is more pragmatic and her technique of teaching a sense of morality, through knowledge of the environ-
ment and experience, is akin to the Open Educationalists' approach. She felt that growth comes through and by order (Montessori 1912, p. 81) and that a child must have the opportunity to internalize the limits of nature and reality (Ibid., p. 57). She therefore concentrated on the development of community life in which "the children are the key source of maintaining the daily order and care of the classroom... A second element... is the responsibility the children begin to feel for each other" (Ibid., p. 74).

For these three, moral development was in fact only one aspect of the all-round development for which they felt education must aim. In a phrase highly reminiscent of Rousseau, Montessori says that "we must make of the future generation powerful men, and by that we mean men who are independent and free" (Ibid., p. 101). Like all great educators from Greek times to the present, Montessori desired development of a pupil's every faculty. She spent much time explaining how the senses could be developed (Ibid., ch. XIV) and related their development to an effective practical life. Froebel also favoured two hours manual activity daily (Froebel 1885, p. 36), to promote manual dexterity, in addition to his emphasis on moral and intellectual development (Ibid., p. 35). Heafford considers that Pestalozzi's method can "best be defined as the ideal method of developing a child's personality and capacities to the full and of preparing him to live a full and happy life as an adult" (Heafford 1967, p. 41). Pestalozzi desired, as did
Rousseau and as do Open Educationalists, that his pupils should become self-reliant, self-confident and self-fulfilled (Ibid., p. 83).

In more specific terms, each of these educators also advocated physical exercise. For Pestalozzi, its purpose was "to bring back the body of the child into the full unity and harmony with his intellect and heart which originally existed" (Pestalozzi 1919, p. 65 in Heafford 1967, p. 66). For Froebel and Montessori the aim was less metaphysical. Froebel desired "all-sided cultivation of the body" because it was the "bearer" of the mind and because this was the only way of promoting an "active, vigorous body in all conditions and pursuits of life" (Froebel 1885, p. 249). Like Renaissance educators he favoured physical exercise, but in so far as it benefitted and was hence subordinate to intellectual and other activities. Montessori had a greater sense of parity, but the advantage of "muscular education" was still useful, not for its own sake, but "in the achievement of the most ordinary life" (Montessori 1912, p. 138). In whatever way they viewed it, the concern of all three for physical exercise emphasizes their interest in all-round development.

Pestalozzi was particularly concerned about the effects of growing industrialization and proposed what he called "Industrial Education" (Heafford 1967, ch. 14). This was to promote the all-round development he desired, despite the bias of its title.
The true, but as yet unproven, aim of industrial education is essentially nothing more than the application of the whole of human education to the specific task of earning a living and can only be called true industrial education if it is based on the full experience and whole range of human education itself. (Pestalozzi 1899, p. 60 in Heafford 1967, p. 81)

He was therefore proposing a very broad curriculum and as with Comenius, Rousseau and modern educators, emphasized the importance of useful knowledge, for only "knowledge that led to control and efficiency in practical doing was of real use to man" (Gutek 1968, p. 105).

Montessori emphasized an earlier idea when she said that a full curriculum, directed towards all-round development should equip a pupil for service to society and contain knowledge that would help him fulfill such a role. But her attitude towards society suggests that her pupils could only survive through service and such knowledge was as useful to them as it was to society (Montessori 1912, ch. II). That the knowledge should be useful to them and be seen by them to be useful, is shown by her insistence that nothing should be taught to a child until he spontaneously presents himself to learn it (Ibid., p. 302).

Open Educationalists are also concerned that pupils should be enabled to survive in society and the appropriate skill that they emphasize is that of problem-solving. However, this proposal is hardly new. Exactly in the manner of Rousseau, Froebel told us

"do not 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 1885, p. 86)

Hand in hand with such a proposal is the idea, voiced loudly by Open Educationalists, that the intellectual process is more important than the actual fact being considered or the piece of work being produced. Over 150 years ago, however, Pestalozzi said that instruction does not consist of "teaching pupils about thought but of forming their capacity to think" (Pestalozzi 1919, p. 38 in Heafford 1967, p. 52).

Although Pestalozzi, Froebel and Montessori all wished to promote all-round development and transmit useful knowledge, they wished to do so largely through a policy of non-interference; a policy that owes much to Rousseau. Froebel believed that in instruction and training, education "originally and in its first principles should necessarily be passive, following (only guarding and protecting) not prescriptive, categorical, interfering" (Froebel 1885, p. 7). The teacher, Montessori said, "must become a passive, much more than an active, influence, and her passivity shall be composed of anxious scientific curiosity, and of absolute respect for the phenomenon she wishes to observe" (Montessori 1912, p. 87).

In essence, the policy of these three educators was to let the child freely develop from within. Montessori's explanation of what development from within means has already been given. Further references to her work and the work of Pestalozzi and Froebel give greater clarity to such an idea.
and more particularly indicate how it is to occur. "All instruction of man is only the art of helping nature to develop in her own way," said Pestalozzi (Pestalozzi 1900, p. 78 in Gutek 1968, p. 86). "All the child is ever to be or become," said Froebel, "lies - however slightly indicated - in the child, and can be developed only through development from within outward" (Froebel 1885, p. 68). Consistent with these beliefs, Pestalozzi would have children entirely satiate their yearning for one subject before taking up another and not be forced to do many subjects at a time (Heafford 1967, p. 58). An Inspector of Froebel's Institute at Keilhau, wrote that

all strangers who had visited and inspected the institution . . . fully appreciated the high aim of the institution, and the perfectly natural method it follows in order to attain its object. . . . This object is by no means mere knowledge, but the free, self-active development from within. Nothing is added from without except to enlighten the mind, to strengthen the pupil's power, and to add to his joy by enhancing his consciousness of growing power. (Gutek 1968, p. xvi)

Of all three, however, it is Montessori who most clearly defines freedom and discipline, and suggests how children might freely develop. Her explanation is important since it so closely parallels the proposals of Open Education.

Montessori would have discipline founded on liberty for "the fundamental principle of scientific pedagogy must be, indeed, the liberty of the pupil" (Montessori 1912, p. 28).

The freedom that is given to the child is not liberation from parents and teachers; it is not freedom from the laws of nature or of the state or of society, but the utmost freedom for self-development and self-realization compatible with service to society. (Mon-
The liberty of the child shall have as its limit the collective interest. . . . We must therefore check in the child whatever offends or annoys others, or whatever tends towards rough or ill-bred acts. But all the rest, every manifestation having a useful scope must not only be permitted but must be observed by the teacher. . . . Useless or dangerous acts . . . must be suppressed, destroyed [but] it is necessary vigorously to avoid the arrest of spontaneous movements and the imposition of arbitrary tasks. (Montessori 1912, pp. 87-8)

The principle goal of such an approach is the development of a disciplined individual who "is master of himself, and can, therefore, regulate his own conduct when it shall be necessary to follow some rule of life" (Montessori 1912, p. 86). Of each of these statements Rousseau would have heartily approved, as would Open Educationalists who might well adopt such a clear exposition of the views they appear to hold.

The Montessori directress (teacher) assumes the responsibility for arranging the environment, as does the Open Educationalist. Otherwise she does not insist by repeating a lesson because "in doing so the teacher will cause the child to make an effort to understand, and will thus alter the natural state" (Ibid., p. 109). Montessori wrote

we not only do not force a child, but we do not even invite him, or in any way attempt to coax him to do that which he does not wish to do. So it sometimes happens that certain children, not having spontaneously presented themselves for these lessons, are left in peace and do not know how to read or write. (Ibid., p. 302)

The idea of a child "spontaneously presenting" himself for a lesson, that is then directed by a teacher, gives body to the idea of free development from within. A child for some spontaneous, personal, inner reason decides he wants to learn,
and of his own free will presents himself to the person who can help him do so. However, a directress is expected only "to give a ray of light" and then go on her way (Ibid., p. 115), unless she can so direct a child as simply "to lessen the expenditure of poorly directed effort, converting it instead into the enjoyment of conquest made easy and infinitely broadened" (Ibid., p. 237). Since the Open Educationalist is generally within the public system, his responsibility to meet the expectations of parents, tax-payers and the school board rarely permit such a free system as here suggested. Nevertheless, the literature on Open Education suggests that Open Education teachers would like to operate in this way, and their emphasis on letting a child develop at his own pace is integral to this approach.

For Pestalozzi, the prime obligation of an individual was the development of his unique human personality (Gutek 1968, p. 153). For Froebel, humanity was realized and expressed in each child "in a wholly, particularly, peculiar, unique manner" (Froebel 1885, p. 18). And for Montessori there existed "only one real biological manifestation: the living individual; and toward single individuals, one by one observed, education must direct itself" (Montessori 1912, p. 104). Since each of these three viewed the individual with such importance, they each favoured individual consideration of the pupils. For Pestalozzi, this individualistic approach meant thoroughly knowing the child (Gutek 1968, p. 47). It did not extend into his teaching methods which were quite
highly structured (Ibid., p. 43) and conducted with several pupils operating in unison (Ibid., p. 123). Froebel on the other hand promoted individual "self-activity" (Froebel 1885, p. 11), and discovery (Ibid., p. 86), and Montessori's lessons were conducted "almost exclusively" on an individual basis (Lillard 1972, p. 65).

Each of the three viewed experience other than that provided by books and the words of the teacher as crucial. As with Open Education, experience at first hand of the matters discussed by teacher and pupils, was of primary pedagogical importance. Pestalozzi's "basic principle underlying the entire curriculum was sense observation" (Gutek 1968, p. 46), and Montessori developed numerous exercises for training the senses (Montessori 1912, ch. XIV). Nature was considered a profound source of experience. It was indeed a "Natural" education that Pestalozzi was always concerned to develop (Gutek 1968, p. 10). Froebel felt it was "important that boys and adults should go into the fields together" (Froebel 1885, p. 164), and Montessori spent a chapter in The Montessori Method explaining the role of nature in education (Montessori 1912, ch. X). The importance of the experience envisaged by these educators was that it involved "doing", and the importance of doing was that "what a man tries to represent or do he begins to understand" (Froebel 1885, p. 76) while "the child who does not do does not know how to do" (Montessori 1912, p. 97); beliefs strongly held by Open Educationalists.
The Montessori Method shows that Maria Montessori, before Piaget, was employing the techniques that his research has shown to be appropriate for the young. However, her concern was with young children only, and not adolescents, and it was left to her successors to extend her methods to the later stages of development. She (Lillard 1972, p. 29) like Froebel (Froebel 1885, p. 27) did recognize distinctions between childhood and adulthood, but it seems that none of the three here considered approached the achievements of Rousseau in clearly demonstrating the different stages of intellectual development, nor articulated so clearly the different activities appropriate to different stages. Piaget has extended and improved upon Rousseau's proposals. The work of all these people developed knowledge and concern that Open Education also has for pupils' stages of development and the experiences appropriate to each stage.

Though separated from Open Educationalists by 50 to 150 years, the language, concerns and proposals of Pestalozzi, Froebel and Montessori display very similar ideas to those of Open Education. They saw each individual as a distinct entity, distinctively important, and were optimistic about his desire to learn. For Montessori in particular the learning environment was to be highly individualized. They aimed at all round-development and emphasized the importance of transmitting knowledge and skills of use to the child in the world he was to enter. They stressed the importance of knowing the child, his nature, interests and stage of develop-
ment. They were concerned to provide a range of activities, that were integrated (Ibid., p. 128 and Heafford 1967, p. 54), and which would supply pupils with first-hand experience.

All of these emphases are shared by Open Education. Pestalozzi, Froebel and Montessori may have placed more importance on Christian virtues and on a proper family background than do Open Educationalists but these minor differences do not detract from their great significance to Open Education. Many Open Educational ideas are almost identical to the ideas of Pestalozzi, Froebel and Montessori whether these three were developing the ideas of others or their own.
During the 20th century there have been echoes of the earlier optimistic belief in the innate goodness of children. A.S. Neill maintained a "complete belief in the child as a good, not an evil being" (Neill 1960, p. 32), and in their involvement with the "Eight Year Study" (Aikin 1942), the Denver Public Schools proclaimed their belief in human beings as "dynamic and purposive" (Ibid., p. 32). But Bertrand Russell pointed out that although the great English Public School reformer, Dr. Arnold, was wrong in his belief that evil dwells in all men and must be thrashed out of them,

there is an opposite error to Dr. Arnold's, far less pernicious, but still scientifically in error, and that is the belief that children are naturally virtuous, and are only corrupted by the spectacle of their elders' vices. . . . The fact is that children are not naturally either "good" or "bad". They are born with only reflexes and a few instincts; out of these, by the action of the environment, habits are produced, which may be either healthy or morbid. (Russell 1926, pp. 24-5)

Bertrand Russell's optimism was confined to a belief that every normal child possesses a "spontaneous wish to learn as shown by its efforts to walk and talk" (Ibid., p. 25). Dewey had a similar faith "in the power of living beings to grow, mentally and spiritually as well as physically, and to find a way out, around, under and through adverse conditions" (Mayhew and Edwards 1936, p. 433).

In the 20th century, John Dewey, as much as anybody,
has been responsible for an increased emphasis upon the individual and the individualization of instruction. In the Dewey School, with which Dewey was so closely connected, each teacher was expected to "give attention to the specific powers and deficiencies of each child, so that the individual capacities will be brought out and individual limitations made good" (Ibid., p. 34). In another practical setting, the schools involved in the "Eight Year Study" "were concerned to know each student well and guide each wisely" (Aikin 1942, p. 21). Open Educationalists are therefore following in this tradition when they make the same demands for different treatment of each individual according to his individual needs, interests and abilities.

On this individual basis, Dewey believed that pupils should become familiar with those resources and achievements of existing society that make for a better future society (Dewey 1916, pp. 8, 20). Because society is becoming more complex, he saw a need for intentional agencies - schools - to transmit this knowledge (Ibid.). However, he was worried that "as formal teaching and training grew in extent, there is the danger of creating an undesirable split between the experience gained in more direct associations and what is acquired in school" (Ibid., p. 9). He was worried that what schools did do would cease to be what they should be doing - providing a real understanding of the achievements of society that would make for a better society. He feared that schools would cease to be a living experience accurately "purifying
and idealizing social customs" (Ibid., p. 22). Consequently in his ideal school

the life of the child becomes the all-controlling aim. All the media necessary to further the growth of the child center there. Learning? Certainly, but living primarily, and learning through and in relation to this living. (Dewey 1900, p. 36)

School becomes isolated from life when the child is unable to utilize the experience he gets outside the school in any complete and free way within the school itself; . . . [and] unable to apply in daily life what he is learning at school. . . . [Consequently] there should be an organic connection between the school and business life; it is not meant that the school is to prepare the child for any particular business; there should be a natural connection of the everyday life of the child with the business environment about him. (Ibid., pp. 75-6)

Dewey therefore argued that, in school, children should have 'living' experiences that promote their understanding of society, primarily those aspects of society that would promote a better future society.

The advocates of Open Education seem to be saying very much the same thing. They wish children to experience society at first-hand and learn how to deal with the problems that arise in society. There is one significant difference, however. Although Dewey realized that "no matter what the present success in straightening out difficulties and harmonizing conflicts, it is certain that problems will recur in the future in a new form or on a different plane" (Dewey 1922, p. 284), he did not foresee the new problems arising as rapidly as Open Educationalists believe they will. He therefore believed more firmly than do Open Educationalists that the traditional standards and bodies of information, which
he refers to as adult knowledge, were appropriate for school children to learn.

What new experiences are desirable and thus what stimuli are needed, it is impossible to tell except as there is some comprehension of the development which is aimed at; except, in a word, as the adult knowledge is drawn upon as revealing the possible career open to the child. (Dewey 1902, p. 19)

Open Educationalists, on the other hand, feel that change is so rapid that knowledge believed invaluable today may be redundant tomorrow and concentrate on the process of how to solve problems, rather than the content of particular problems and its relationship to specific bodies of knowledge.

In spite of this dichotomy, Open Educationalists would agree, as would have Dewey, with Bertrand Russell when he said

I do not believe that it is possible to train intelligence without imparting information, or at any rate causing knowledge to be acquired. And without intelligence our complex modern world cannot subsist; still less can it make progress. (Russell 1926, p. 41)

They would have agreed with his emphasis on curiosity which "properly so called, is inspired by a genuine love of knowledge" (Ibid., p. 42), and his insistence upon open-mindedness to new knowledge as one of the qualities education should aim at producing (Ibid., p. 43).

Open Educationalists, therefore, do not differ from Dewey and Russell in their intention to promote intelligence, curiosity, open-mindedness and the ability to solve problems. Nor do they differ in their belief that these qualities and skills should be promoted, in school, by children having
'living' experiences of society. They do differ in the extent to which they believe these experiences should be selected on the basis of "adult knowledge". In other words, they seek the same qualities and skills as did Dewey and Russell, but are less clear in their answer to the question - what are the criteria for selecting the experiences intended to develop these qualities and skills?

The above qualities and skills were not the only attributes that Dewey, Russell and other 20th century educators wished to promote, although they were the particular ones that arose from a consideration of the qualities and skills appropriate to present society.

In an apparent reversal of a trend, Dewey emphasized the importance of a sound body as the abode of a sound mind (Dewey 1900, p. 83) and both Bertrand Russell (Russell 1926, p. 144) and A.S. Neill (Neill 1960, p. 71) considered dancing an important school activity, for the promotion of physical health. Open Education does not seem to have maintained this reversal and its emphasis upon mens sana in sano corpore.

With regard to moral qualities, A.S. Neill believed "that it is moral instruction that makes a child bad" (Ibid., p. 250), and was therefore opposed to moral instruction. But it seems that he failed to distinguish between instructing a child in a particular pre-established moral or set of morals, and instructing a child about morals in such a way that he will come to develop his own. He was opposed to the
imposition of pre-established morals, but would not have been opposed to children having experiences that help them to establish what their morals or values are, and to establish the principles by which they will conduct their lives. This is what Open Educationalists aim to do (Raths, Harman and Simon 1966) and what Dewey argued for.

Dewey maintained that

all morality is social; not because we ought to take into account the effect of our acts upon the welfare of others, but because of facts. Others do take account of what we do and they respond accordingly to our acts. Their responses actually do affect the meaning of what we do. . . . Our conduct is socially conditioned whether we perceive it or not. (Dewey 1922, p. 216)

Since he held all morality to be social and believed that all children have a social instinct (Dewey 1900, p. 43), he intended that the very social setting of the school should encourage the development of a child's morals. He did not seek the adoption of any particular moral or morals. In his school he aimed "to foster in the children the consciousness of mutual interdependence; and to help them practically in making adjustments that will carry this spirit into other deeds" (Ibid., p. 117). Above all, he wanted children to consider the consequences of their acts and to select their acts accordingly (Mayhew and Edwards 1936, p. 438). Dewey therefore wished students to establish for themselves, in consideration of others, how they should act.

Exactly how children developed intellectually and became able to make these sorts of decisions, or to solve problems, had been given only little attention before the 20th
During the 20th century, Piaget has worked on little else and his work in this field has greatly influenced the thinking of Open Educationalists. Dewey made many statements about children's intellectual development that are similar to Piaget's, but as far as the theory of such development is concerned, it is Piaget's work that receives the most attention in Open Education.

Piaget has argued that intellectual development involves the development of schemata - a schema being "a complex concept encompassing both overt motor behaviour patterns and internalized thought processes" (Baldwin 1968, p. 175). The visible physical motions, or overt motor behaviour patterns, and internal thinking processes that constitute a schema are closely interrelated around a particular notion - a concept, skill, fact, etc. - although "the schema generally includes a variety of acts in many different circumstances, not just a response to a specific stimulus" (Ibid., p. 174). That is, the schema includes more than one specific example of the notion and more than a single response to that notion. Piaget believes that thought is, in fact, internalized action and that therefore intellectual or cognitive schemata derive from physical, sensorimotor schemata by a process of internalization (Ibid., p. 175). In other words we build up our intellectual understandings, initially, through physical experiences.

The consequences of these hypotheses for education are two-fold. First, the fuller a particular schema of an
individual, the fuller will be that individual's understanding of the notion upon which the schema is centred. In education, therefore, if you wish a child to learn something, the more examples he has to consider of that something, and the greater variety of responses he develops in relation to that something, the better will be his learning of it. This implies that education should take place in rich environments where numerous examples of numerous notions are made available to the students.

The second consequence is that if an intellectual schema, or intellectual understanding of a notion is the result of internalized physical activity, then learning of all new things should begin with physical activity directly related to that notion. To learn something new a child should physically perform an act that is directly related to that something; he should be involved in what has been called "doing", in the initial stages of learning.

Piaget argues, further, that these schemata are continually developing, by a process that will be described later, but that their development proceeds according to certain stages, which roughly conform to certain ages of the child. Up to two years old, a child's schemata are sensorimotor - "they organize sensory information and result in adaptive behaviour, but are not accompanied by any cognitive or conceptual representation of the behaviour or the external environment" (Ibid., p. 190). The period between two and seven years old, approximately, is a transitional period between the
sensorimotor period when no intellectual or logical connections are made and the concrete operational period when they are. At the age of seven, the child's thought processes have become much more stable and reasonable, he has acquired a rudimentary conception of time, space, number and logic, those fundamental conceptions in terms of which our understanding of events and objects is ordered. (Ibid., pp. 192-3)

Between seven and eleven, the child's problem becomes one of understanding the relationships among the concrete operational groupings or schemata that he has already acquired (Ibid.). Such understanding has been achieved by about the age of eleven, when the child's intellectual development reaches the stage of formal operations. According to Piaget, "the stable, equilibrated type of thinking" that characterizes this stage results from the organization of operational thoughts into interrelated systems. This organization makes it possible for the child to behave consistently and logically and to follow through the implications of his ideas. (Ibid., p. 249)

The implication of this part of the Piagetian theory for education is that the learning activities provided for a student must relate to his present stage of development, otherwise he will either be bored, having passed that stage by, or intellectually out of his depth and unable to learn what he is expected to learn.

Finally, Piaget maintains that the schemata develop through a process of adaptation which is described by the complementary processes of assimilation and accommodation.
Although it is in fact far more complicated and interrelated,

broadly speaking, assimilation describes the capability
of the organism to handle new situations and new problems
with its present stock of mechanisms; accommodation
describes the process of change through which the organism
becomes able to manage situations that are at first too
difficult for it. . . . Those aspects of the situation that
are assimilable but not completely assimilated evoke
schemata and motivate the use of the schema until the
situation has been mastered. Then the schema becomes
available as a tool, but the activity is no longer intrin-
sically attractive. Instead some novel feature of the
situation that has now become assimilable captures the
child's behaviour and serves as food for his growth until
he attains an equilibrium with respect to that problem.
. . . The concepts of assimilation and accommodation
. . . indicate that the individual is attracted to
problems that stretch his adaptation and that he feeds
upon such challenges to grow in behavioural effective-
ness. (Ibid., pp. 175-6)

The consequences of this hypothesis for educators is
that they must provide activities that relate to the present
development of a child's schemata, irrespective of the
particular stage that the schemata as a whole have reached,
and present a challenge that stretches the child's adaptation,
but which he can in fact accommodate. The child will gain
satisfaction from surmounting the challenge, and his under-
standing will have been thereby increased. For this to
happen, however, the child must be sufficiently interested to
take up the challenge. Consequently educators should provide
activities that extend a child's present understanding and
which catch the child's interest.

Susan Isaacs, whose work at the Malting House School
has attracted the attention of Open Educationalists, argues
that children's intellectual development is not so rigidly
time-structured, and that early thought processes are not so
different from adult processes as Piaget would have us believe (Isaacs 1930, pp. 82-3). But in fact she is arguing more with the timing of the stages of intellectual development, as outlined by Piaget, rather than what he has said about the nature of that development and the basic order in which the stages occur. In any case her criticisms have in no way diminished the authority of Piaget in the eyes of Open Educationalists.

In Open Education the consequences of Piaget's hypotheses have been followed through. Open Educationalists aim at providing a rich environment for the pupils where they can engage in "doing" activities that interest them and are appropriate both to their stage of development and their development within that stage. The teacher is present to ask questions and guide the students in their internalization of the practical activities and development of cognitive schemata.

However, Open Educationalists are by no means the first to adopt these sorts of practices. Previous chapters showed they were in evidence before this century and Dewey in his association with the Dewey School put into practice these kinds of ideas even before they were enunciated by Piaget.

In discussing the Dewey School's curriculum it is necessary to remember one of the tenets of its philosophy of growth, namely that there must be steps in the development of all subject matter comparable to the stages of growth in the experience of a child. The first knowledge that is important to a child [for example] is
the power to do. The occupations and the arts, therefore, formed the initial stages of the curriculum, for they correspond to knowing how to go about accomplishing ends. (Mayhew and Edwards 1936, p. 271)

Up to the age of eight or nine, for Dewey, the appropriate activities are weaving, cooking, shopwork, modeling, dramatic plays, conversation, discussion, story-telling etc. (Dewey 1900, p. 105). From eight onwards "a child begins to show interest in larger physical and social relations" (Mayhew and Edwards 1936, p. 283). Studies of exploration and discovery, of the history of the world from bare bald rock to its present condition as a starting point for the consideration of the chief geographical forms, of the laws of falling bodies, to name but a few, are appropriate to children over eight years old (Ibid., pp. 283, 294).

Dewey, therefore, both described the nature of the stages of intellectual growth and proposed activities appropriate to these stages. He was also concerned that children should be provided with a rich environment that would develop as fully as possible their understanding at each stage. Reference has already been made to Dewey's insistence that school, home and the business world be closely interrelated, with learning in one area applied in each of the others. This interrelationship ensured a greater range of experiences for the child than a school could provide on its own. As further evidence of Dewey's concern to promote a rich environment, Mayhew and Edwards' book about the Dewey School describes an immense range of activities that were pursued in the school, on both related and divergent
topics or notions.

Dewey also believed that knowledge about how to do things comes first to persons and, of all knowledge, remains most deeply ingrained (Dewey 1916, p. 184). The core of Dewey School activity was occupations rather than studies (Mayhew and Edwards 1936, p. 5). The schools involved in "the Eight Year Study" took this idea to heart, though they did not necessarily get it from Dewey, and believed that

the newer concept of learning holds that a human being develops through doing those things which have meaning to him; that the doing involves the whole person in all aspects of his being; and that growth leads to a greater understanding and more intelligent reaction to new situations. (Aikin 1942, p. 17)

"Doing", theoretically proposed as the initial act in learning by Piaget, was a principle put into practice by Dewey and the schools of "the Eight Year Study".

With regard to the problem of motivation and how a teacher can actually get a child to do or learn something, Dewey believed that

any fact whether of arithmetic, or geography, or grammar, which is not led up to and into, out of something which has previously occupied a significant position in the child's life for its own sake, . . . is a bore or mere symbol. . . . When the subject matter has been viewed as an outgrowth of present tendencies and activities, it is easy to locate in the present some obstacle, intellectual, practical or ethical which can be handled more adequately if the truth in question be mastered. This need supplies the motive for learning. (Dewey 1902, pp. 24-5)

This is similar to Piaget's theory that development occurs through the presentation of fresh challenges to established schemata. These motives for learning, Dewey said, should be
interests and problems that arise in the ordinary direct and personal experiences of the child. In other words the child should learn about what is in fact important to his life, what interests him. Dewey therefore suggests that the child be involved in decisions about the content of school learning; there was, he thought, no sounder point in the philosophy of Progressive Education "than its emphasis upon the importance of the participation of the learner in the formation of the purposes which direct his activities in the learning processes" (Dewey 1938, p. 67). However, the teacher has the responsibility for making suggestions to the child of what he might do (Dewey 1900, p. 129) and for leading the child to realize the problem as his own (Ibid., p. 149).

In spite of this strong emphasis upon the child's interests and upon the child's involvement in decisions about appropriate learning processes, Dewey was quite definite as to what sort of interests should be pursued - it was not to be any and all interests; he felt it was the danger of the "new education" that it regards the child's present powers and interests as something finally significant in themselves. It is the activities signifying culminating power and interest that must be encouraged and guided. Any power, whether of child or adult, is indulged when it is taken on its given and present level in consciousness. Its genuine meaning is in the propulsion it affords towards a higher level. ... Appealing to the interest upon the present plane means excitation and no more. (Dewey 1902, pp. 14-15)

He wished to distinguish between exciting or indulging a child's interest and realizing it fully through its further pursuit to higher levels of understanding (Dewey 1900, p. 40).
Only those interests should be realized that can be seen as ongoing and providing a basis for further worthwhile growth.

From Piaget, therefore, Open Educationalists have a theoretical basis from which to derive practical procedures, in Dewey they can find examples of what these practical procedures might be and a means of distinguishing between the more and the less worthwhile ones.

Although the above discussions are particularly related to the intellectual development of children and procedures for aiding that development, they are also related to the role of the teacher. The teacher is considered by Dewey, as by Open Educationalists, responsible for setting up the rich environment of "doing" activities that relate to a child's interests, stage of development and development within the stage. For Dewey an additional criterion by which the teacher selects activities to promote within the rich environment, is that they should develop those interests that expand the child's understanding and lead to further growth (although there have continued to be arguments about the criteria for growth itself, ever since Dewey wrote this).

In order to be able to select and promote activities appropriate to the child, Dewey, like Montessori, expected the teacher to watch the child carefully. Through the knowledge and understanding of the child resulting from this observation, the teacher should make his decisions to adopt an activity or withdraw an inappropriate one (Dewey 1900, p. 129). Dewey is therefore similar to many previous educators, and Open Edu-
cationalists are similar to him, in insisting that teachers have a full knowledge of their charges. Open Educationalists, however, while expecting teachers to keep records on each child, do not insist on the detailed, scientific observation that Dewey, and particularly Montessori, expected of teachers.

Essentially Dewey viewed the teacher as a guide, or, to use modern jargon, a facilitator of learning. The teacher simplifies the total environment by selecting and ordering the most worthwhile parts of that environment and ensuring that there is a reasonable balance between these parts (Dewey 1916, p. 20). Into this teacher-established environment the child is guided by the teacher who continues to guide the child in the child's own selection of activities that interest him, and to guide the child's performance of these activities so that worthwhile growth results.

It is part of the educator's responsibility to see equally to two things: first, that the problem grows out of the conditions of the experience being had in the present, and that it is within the range and capacity of the students; and, secondly, that it is such that it arouses in the learner an active quest for information and for the production of new ideas. (Dewey 1938, p. 79)

The learner makes the quest and produces the ideas, but the teacher guides him into and during these activities. This description of a part of the teacher's role can be seen to stem directly from Dewey's statements about how a child learns best.

This view of the teacher as a guide and facilitator of learning, outlined by Dewey, has been taken up whole-heartedly by Open Educationalists just as they have taken up many of
Dewey's other proposals and taken up the theories of Piaget. But although they have taken up this particular view wholeheartedly, they have not adopted all the thinking behind it. Just as they do not rely, as Bertrand Russell and Dewey relied, upon traditional subject areas and knowledge to decide what experiences would best develop the desired skills and attitudes, so they do not require the teacher to rely, as Dewey did, upon traditional subject areas to determine the environment of the child.

The value of the formulated wealth of knowledge that makes up the course of study is that it may enable the educator to determine the environment of the child, and thus by indirection to direct. . . . It says to the teacher: such and such are the capacities, the fulfillments, in truth and beauty and behaviour open to these children. Now see to it that day by day the conditions are such that their own activities move inevitably in this direction, toward such culmination of themselves. Let the child's nature fulfil its own destiny, revealed to you in whatever of science and art and industry the world now holds as its own. (Dewey 1902, p. 31)

This seems to be the most significant, if not the only difference between what Dewey said educators should do and what Open Educationalists try to do. In many other respects Open Education reflects what Dewey said education should involve, and of all 20th century educators, it is his work that it reflects most fully.
About Open Education there is an air of expectant and excited novelty. "Rarely," write Nyquist and Hawes, introducing their book *Open Education*

have educators, citizens and parents in communities across the land faced a large alternative in choice that might fundamentally improve the whole quality of learning and daily life in schools. At present, however, such a potentially far-reaching alternative confronts us. This is the highly sophisticated form of schooling that American Educators have generally begun to call Open Education. (Nyquist and Hawes 1972, p. 1)

It has been shown, however, that many of the ideas of Open Education are not novel. As an approach to education, it has very many antecedents, some of which are very old, and many of which are given little recognition in the literature on Open Education. Yet had these ideas not been propounded in earlier times and become part of Western thinking about education, Open Education may not have achieved the popularity it has. In addition, consideration of these earlier ideas can help to provide greater clarity about Open Educational ideas than is present in many of the current treatises on Open Education.

Optimism, perhaps the fundamental attitude of the Open Educationalist, clearly expressed by Nyquist and Hawes, in fact has relatively little substance in the context of Open Education. It amounts to this: Open Educationalists believe
that children desire to learn and will learn readily under the right conditions. Their desire to learn is the motivational factor that must be recognized and harnessed in educational processes. Because of their desire, children can and should be trusted to choose activities they will pursue, and given a large amount of freedom in their pursuit. This optimism supports the proposal that the subject matter of education should be based on the interests of children since their desire to learn is unlikely to extend to matters that do not interest them.

The belief of earlier educators that education enabled the student to achieve an identifiable goal, whether it was the Classical, ideal demi-god, or the hard-working, socially conscious Christian, provided them with a specific aim and with a yardstick by which they could measure their success. The aim of Open Education is far less tangible; it is hoped that children will develop in their own particular way, through their desire to learn, into "thinking, autonomous, sensitive people" (Featherstone 1971, p. 24). If one can indeed call this the aim of Open Education, it is very vague and in no way indicates the process that should be adopted in order to achieve it.

Silberman, another authority on Open Education, in an attempt to define Open Education, has written that it is not a model, still less a set of techniques to be slavishly imitated or followed. It is, rather, an approach to teaching and learning - a set of shared attitudes and convictions about the nature and purposes of teaching and learning, about the nature of childhood and
adolescence and ultimately about the nature of man. (Silberman 1973, p. xix)

This statement, however, does not define Open Education. It does not distinguish it from other approaches to education, each of which is comprised of attitudes and convictions about teaching, childhood and man, that are shared by its exponents. In the literature of Open Education there is in fact a dearth of definitions and statements of aims.

This dearth is a weakness of Open Education, however much it may accord with its practical nature. The Plowden Report, an English handbook of Open Education, suggests that statements of aims, "even by those engaged in teaching, tend to be little more than expressions of benevolent aspiration which may provide a rough guide to the general climate of a school, but which may have a rather tenuous relationship to the educational practices that actually go on there" (Plowden Report, para. 498). But the report goes on to demonstrate the importance of establishing a list of purposes for education if only as a checklist against which to judge the value and success of school practices. Here lies the real value of stated aims or purposes, and the reason why it is a weakness of Open Education that it neither makes such statements nor seems to consider them necessary; without them one cannot satisfactorily explain the adoption of a particular activity. To say "I teach such and such, in such and such a manner, because it seems the best and most appropriate thing to do" begs the questions "Why?" and "How do you know?", and
until these questions are answered the activity is not justified. But the questions are only answered, in the final analysis, by a statement of aim or purpose, "I do this in order to achieve a particular goal that I consider worthwhile". Likewise, unless the purpose of an activity has been stated, there is no way of assessing whether it has achieved what was intended and is in fact the best and most appropriate way to do so.

Like its optimistic attitude, the emphasis of Open Education on knowing fully each individual child, on adapting the pace of education to each individual's ability and on adopting educational processes and subject matter appropriate to each individual, are also far from new.

The sources of knowledge about each individual child are similar to those used by past educators. Careful observation of each child, his stated interests and wishes, examination of activities pursued and assignments completed, consultation with fellow educators have all been advocated at least since Renaissance times. There is, however, one source of information used by Open Education that is new, and this is the family. Until recently little emphasis had been laid on understanding and gaining information from a child's family background. Most schools in past centuries were exclusive and insular, and to a large extent established a family atmosphere of their own. The families from which the pupils were drawn were generally similar and largely unafflicted by social problems. There was little need to be in contact with them.
Open Education, on the other hand, is being adopted into a public system of universal education. The Plowden Report acknowledges that the school's increased concern for a child's welfare can lead to a conflict of interest between school and parents over the responsibility for such welfare. Nevertheless, the report considers that an aim which head teachers would almost certainly have considered is the cooperation of school and home, and, with it, that of making good to children, as far as possible, the deficiencies of their backgrounds. (Plowden Report, para. 500)

To help solve social and disciplinary problems, consideration is given to a child's family background by all schools today, even those that do not go under and would themselves reject the banner of Open Education. However, Open Educationalists use this information to greater purpose than controlling anti-social or erratic behaviour. Combined with other knowledge of the child, they use it in discovering a child's interests and selecting activities appropriate to the individual.

The pace at which each individual's education should proceed was a matter that Vittorino seriously considered 600 years ago and Montessori demonstrated that it could be assessed by careful observation and understanding of the child. Its emphasis in Open Education is not therefore new; its application to mass public education is, however. Critics of public schooling such as Friedenberg, Goodman and Silberman have shown that public schools are highly "lock-step" in nature, each class of students doing the same thing at the same
pace. In so far as children do learn at different rates, the attempt by Open Educationalists to recognize this in their processes of education is an important departure from such "lock-step" methods of traditional mass education.

Adopting educational processes and subject matter appropriate to each individual is a proposal that really came to the fore with Rousseau, and was further developed by Montessori. The extent to which this proposal, adopted by Open Education, has been accepted by the educational circles of today, is a measure of Open Education's indebtedness to them. However it is far from clear exactly how the proposal is to be implemented and it is not one that has received overall acceptance. These problems arise largely because this proposal rests on the questionable basis of a child's needs and interests. It amounts to this: the processes and subject matter that are appropriate to an individual are those that accord with his needs and interests. This basis is questionable precisely because the notions of needs and interests are questionable. What do Open Educationalists mean when they use these words? How are a child's needs and interests to be determined? What is the role of the teacher in determining and pursuing them and what is the justification for basing educational practices on them?

Dearden has pointed out that the concept of need is a normative one (Dearden 1966). Behind each statement of need there is a norm or standard which has not been met. To say a child needs help in reading implies some unachieved norm, that
he has not reached the expected standard, for example, or that he will be less frustrated by his inability to read, where reduction of frustration is the norm to be met. Appealing to the needs of children does not therefore eliminate the necessity of establishing norms, or, in other words, the necessity of establishing aims and purposes in education which would represent the norms to be met and which are not clearly apparent in Open Education.

To say that a child's needs are established by examining his expressed interests - a child needs help in reading, for example, because he has expressed an interest in being helped, the norm in this case being the satisfaction of a child's interests - does not help to solve the problem. The notion of interests is also vague, particularly in its application to education.

Open Educational statements seem to imply that children have innate interest in some things but not in others and by observation the teacher can discover these interests and pursue them. Such statements are vague, however, and would not accord with Bertrand Russell's suggestion that children are born with only reflexes and a few instincts (Russell 1926, p. 24). Nor do they really help to answer Dewey's question "if you begin with the child's ideas, impulses and interests, all so crude, so random and scattered, so little refined or spiritualized, how is he going to get the necessary discipline, culture and information?" (Dewey 1900, p. 37). Dewey's own answer is interesting: "we can direct the child's activities,
giving them exercise along certain lines." (Ibid., emphasis added)

Although few teachers would deny the validity of a pupil pursuing an interest of his own once it is recognized by pupil and teacher as educationally worthy of pursuit, there is the problem of recognizing interests as they arise in their initial stages. This is particularly important with Open Education and other approaches that stress the interests of the child rather than those matters in which a teacher thinks a child should be interested. In this context it would perhaps be more appropriate to use impulse, or inclination, rather than the word interest which implies more substance and more clarity of recognition on the part of the pupil. An impulse, such as a quizzical expression, a tentative question, a half-absorbed toying with idea or object, when recognized by the teacher, employing techniques of observation described by Montessori and writers on Open Education, can be taken up and pursued when it seems educationally appropriate to do so. As Dewey said:

for the child to realize his own impulse by recognizing the facts, materials and conditions involved, and then to regulate his impulse through that recognition is educative. This is the difference, upon which I wish to insist, between exciting or indulging an interest and realizing it through direction. (Dewey 1900, p. 40)

An impulse or interest that Dewey considers worthy of pursuit is one which is "led up to and into, out of something which has previously occupied a significant position in the child's life for its own sake... an outgrowth of present
tendencies and activities" (Dewey 1902, pp. 24-5). In addition the growth derived from the pursuit of such an interest must "create conditions for further growth", it must lead to "occasions, stimuli and opportunities for continuing growth in new directions" (Dewey 1938, p. 36). Dewey did not specify the particular "directions" appropriate to education and this lack has led his "education as growth" metaphor into some disrepute among philosophers of education. Nevertheless it fits well with Open Education's pragmatic approach to education and apparent unwillingness to list specific aims. Adoption or adaptation of Dewey's analysis of impulses or interests, their recognition, acceptance and pursuit, would seem a satisfactory starting-point for Open Educationalists in their attempt to clarify the problems surrounding the notions of need and interest.

One criterion by which Open Educationalists establish the subject matter of education is the interests of each child. It has been suggested that this is inadequate in its present stage of development and explication. Another criterion that they employ, in judging subject matter, is the use to which the knowledge a child has gained will be put in the future; a criterion which has been used before, however, for example by Comenius and Rousseau. Desiring that the knowledge gained in education should be useful, Open Educationalists maintain that it should be procedural knowledge, the knowledge how to do things, rather than propositional knowledge, the knowledge that such and such is the case.
They justify their emphasis on procedural rather than propositional knowledge by reference to the rapid changes that society is undergoing. Children need to be taught to cope with a world that we can no longer anticipate, to adjust to rapid change and to a society becoming ever more mobile. . . . Educators are beginning to recognize the inadequacy of teaching yesterday's ways to tomorrow's children. (Stephens 1974, p. 6)

Traditional public schooling has been criticized for its emphasis on the accumulation of propositional knowledge. It would seem for Open Educationalists that any validity such an accumulation might have rests with the contribution it can make towards knowledge how to solve a problem.

Although their emphasis on procedural knowledge is clear, the Open Educationalists' explanation of what experiences will best provide this knowledge is not. Their criteria for establishing what knowledge should be taught and what experiences provided in school, are, as already pointed out, the interests of the child and the use to which knowledge or an experience can be put in helping children think for themselves and solve problems.

This emphasis on knowledge that is useful to the child highlights an aspect of Open Education that is new, that the knowledge transmitted in Open Education is solely for the use of the child. Previous educators had suggested that children should learn what is useful to them in order, primarily, to become valuable citizens. Children were to use the knowledge for the good of society. Open Educationalists, on the other hand, emphasize the development of the individual's abilities.
for the individual's own sake. Rousseau had proposed a somewhat selfish individualism in education, but had not developed it to the same extent as Open Educationalists. Although they do emphasize that students should develop a social consciousness and sense of responsibility, it is, at the same time, the pupil's own interests that should be pursued; he should be enabled to do what he wants to do in school and, afterwards, the knowledge learnt should be primarily of use to him.

Open Educationalists believe that this useful knowledge should not be presented to children in a compartmentalized fashion. They believe that children learn in an integrated way, that it is natural for them to learn about the scientific, historical and artistic aspects of a problem as part of a single assignment, rather than learn science as distinct from history and each as distinct from the arts. They therefore propose that subjects be taught in an integrated manner rather than as distinct, discrete units. Just as a Greek or Roman pupil, studying his Homer or Virgil in Classical times, would gain instruction in history or mythology, geography, human relations, the art of writing, philosophy, politics, the qualities of the ideal man and other matters, so a student, studying dinosaurs in an Open Educational environment, should learn something about botany, anatomy, evolution, the history of the world, model construction, and techniques of research, all within the compass of a single project (see Stephens 1974, p. 11).

The idea of integrating subjects as children learn
about them is not new, nor do Open Educationalists make their point with any greater clarity than it has been made before. But they do describe more clearly processes by which subject matter can be taught and learnt in an integrated way (Stephens 1974, ch. 6; Silberman 1973, part 3, ch. 2; Brown and Precious 1968). In fact the emphasis on integration has given rise to "the integrated day", a title for processes of education which is subsumed under the broader title Open Education.

In brief, Open Educationalists propose that the integrated curriculum and the integrated day are to be achieved in the following manner: the resources for a variety of activities are to be provided in the classroom and generally these are to be arranged in activity areas - a math area, reading area, science area, etc. There should be no firm, pre-established timetable. Children should be free to pass from one activity to another as their interests and the demands of their projects dictate. The work of pupils, as far as possible, should be thematic and project oriented, a number of subject areas and activities being covered within a single project as with the dinosaur example outlined above. The teacher should work with small groups of children, either helping them with their projects or taking aside those pupils that are weak in a particular area, and giving them additional assistance.

It is pointed out that some areas of the curriculum are less susceptible to this kind of arrangement than others. Math is an area of particular concern, educators and parents
having questioned whether sufficient mathematical skill can be developed by this freer and more independent approach. In the light of these questions, the pragmatic nature of Open Education is stressed. Each teacher must organize the classroom, the curriculum and the day in the manner best suited to his or her nature and the particular needs of the children. As Stephens says, neither the integrated curriculum nor the integrated day "is to be interpreted rigidly or construed as eliminating the need for occasional separate teaching of individual subjects, or the scheduling of some class work by the teacher" (Stephens 1974, p. 125).

There seems to be a contradiction between the emphasis on integration and the establishment of distinct activity areas with its explicit recognition of subject differences. For the benefit of teachers and interested persons, writers on the curriculum of Open Education treat subject areas separately; they provide distinct sections on the teaching of mathematics, of science, of reading, of social studies, etc. (Silberman 1973, part 4; Stephens 1974, part 3). It seems as if Open Educationalists are attempting to achieve two goals at the same time: while recognizing that subject areas are distinct in many respects - the particular skills and knowledge appropriate to each - they also recognize that there is a great deal of overlapping of these areas and that children naturally make these overlaps. They therefore attempt to develop the children's skills and understanding in each area at the same time as they encourage them to link these distinctive abilities in
order to obtain an overall, composite picture of the problem they are studying; they want to achieve Comenius' proposal that everyone should have "the knowledge and understanding necessary to relate all things together" (Sadler 1969, p. 81), or at least see the connections between related problems and information. As yet, however, there does not appear to be sufficient evidence to demonstrate whether or not Open Education does develop both skills and understanding appropriate to each subject area and the ability to link these understandings. Nevertheless Open Education does stress the importance of the integration that does exist between subject areas more clearly and strongly than other approaches, and suggests processes, not evident in other approaches, by which integration can be attempted.

Tied in with these processes of the integrated curriculum and day is the emphasis on physical, "doing" activities related to each subject area, as opposed to intellectual activities alone. It is proposed that each activity area should contain a number of appropriate manipulable objects. In the math area, for example, there should be a fund of resources enabling children to weigh, measure, compare, and ultimately discover basic mathematical concepts through their own activities. Open Educationalists are fond of quoting the old Chinese saying

I hear, and I forget;
I see, and I remember;
I do, and I understand.

Like Augustine, they believe that one only learns words from
words, the meaning of the words is learnt "from getting to know the things they signify" (Augustine, trans. Burleigh 1953, p. 94). And, like Rousseau, Montessori and other earlier educators, they provide physical objects for children to play with from which they can gain an understanding of the words that surround these objects.

Tied in with this emphasis on "doing" activities within the classroom, and the provision of objects and aids that this entails, is an emphasis, in Open Education, upon the need for children to experience, directly, the external environment as well. They advocate visits to surrounding urban facilities, trips to the countryside and familiarization with the immediate environment of the school. Like Rousseau, they wish the children's experience of matters discussed to be real and at first hand, and, like Dewey, they wish for a tangible connection between the life of school and the life of home and business.

Some critics and worried parents view all these "doing" activities merely as play. Although Open Educationalists do not wish such activities to be considered merely play, they are not put out by the use of the word. Indeed they feel that play is a necessary part of any learning, particularly at an early age, and indeed for any age, when a person is coming into contact with a concept entirely foreign to his previous experience. They believe that just as babies learn about their first concepts through play and tangible experience of these concepts, whether they be mama, dada, heat, movement, the
continued existence of objects that have disappeared from
view or whatever, so satisfactory learning of any concept at
any age is in fact enhanced by playing with objects that help
to develop the concept. In this belief they are supported by
the findings of Piaget and in this harnessing of scientific
examination and theoretical justification of their beliefs,
lies perhaps the best claim of Open Education to newness and
a chief reason for its strength.

The emphasis on play and "doing" activities has been
made by many educators many years before Open Education came
on the educational scene. But not until the advent of Open
Education had there been such justification for this emphasis
as Piaget has provided. He is also responsible to a large
extent for establishing and justifying the Open Education-
alists' views on the intellectual development of children.
In fact, as can be seen, the two are directly co-related:
because Piaget has demonstrated that early intellectual
development, indeed the development of any new concept, is
based on concrete physical experience, Open Educationalists
believe that play and "doing" activities are fundamental to
learning.

Piaget's findings have been criticized on the grounds
that they are subjective and based on the examination of too
few subjects, and that his research is not therefore truly
scientific (Stephens 1974, p. 194). In spite of such criti-
cisms, few teachers are unfamiliar with his findings, and his
influence is extensive.
According to Piaget, the intellectual development of school-aged children proceeds from a "pre-operational" stage, through a "concrete operations" stage to the "formal operations" stage, which are described above on pages 86-7. Rousseau had earlier suggested similar stages of development but not until Piaget were they described and researched so extensively, and although Dewey's educational proposals conformed to such a line of development, it was not until Open Education that such development was recognized so explicitly and appropriate educational processes devised so assiduously: initial play or doing is to be followed by discussion and development of appropriate language and ways of thinking, which in turn should be followed by application of what has been learnt to new situations and the ability to think "formally" about this learning (see for example Barth 1972, pp. 86-101).

In Open Education there is one further emphasis that is far from new, the emphasis on all-round development. Like the Greeks, like Vittorino, like Comenius, in fact like almost all the educators discussed above, Open Educationalists intend to develop the child intellectually, morally and physically. They see the need for balance in the development of all three spheres, but unlike the Greeks who explicitly associated the development of all three in the study of gymnastics and what they called music, there is little attention paid to physical development in the literature of Open Education. Reference is made to drama, and dance and "movement education" are coming
increasingly into vogue (Stephens 1974, pp. 233-6; Kirchner et al 1970), but the emphasis on physical development seems to be made largely in words alone. How such development is to be achieved and how it is to be balanced with other areas of development are matters to which Open Educationalists have so far paid little attention.

Moral development is a matter that is given some attention in the writings of Open Education, although insufficient attention to make it part of a balanced triangle of all-round development. Raths' work on values and teaching (Raths et al 1966), in its advocacy of children being led to develop and clarify their own values without values being imposed on them, would seem to fit very well with the general ethos of Open Education, but it does not receive explicit recognition. Courses at Simon Fraser University on Open Education do, however, make extensive use of Raths' work, and the Social Studies curriculum in B.C. is paying increasing attention to the matter of values. Raths outlines specific procedures that can be adopted in the development and clarification of values and it is interesting that his suggestions are applicable to an integrated curriculum since he makes reference to a range of subject and value areas. At present it seems that moral or value development is to be achieved in Open Education largely by a process of osmosis, as Montessori and Dewey suggested, through social interaction in the classroom, establishment of class rules and procedures, developing awareness of the needs of others through work with them inside
and outside the classroom, projects on social problems, and similar activities.

In the final analysis, Open Educationalists hope that children, educated by their approach, will be well developed intellectually, morally and physically, will be able to think for themselves and solve their own problems, and should be sensitive to the needs of others and of society (see for example The Plowden Report 1967, para. 496).

In all this discussion of the importance of knowing each child, of the significance of a child's needs and interests, of the establishment of well-stocked activity areas, of the need for several, varied field trips, of integration, of all-round development and of the other matters related to Open Education, the question inevitably arises - "What is the role of the teacher?" In Silberman's admirable compendium on Open Education, there are sections on the teacher as adviser and supporter, as observer, as learner, as senior partner, as facilitator of learning and as person. It seems as if the teacher must be fully informed about each child, all areas of knowledge and many ways of stimulating interest in and conveying that knowledge. In addition, he must be well acquainted with the local environment of the school and be a competent observer and amateur psychologist. In considering all the obligations placed on the modern teacher, Broudy may write in a somewhat pettish vein of "the blithe idiocy with which we repeat the refrain 'Treat every pupil as an individual'" (Broudy 1972, p. 44), but by
suggesting we only treat about half a dozen as individuals, he does highlight what seems to be a serious problem in Open Education: the expectations made of each teacher. For a teacher to be successful in implementing all the proposals of Open Education, he must be completely dedicated to the task, or perhaps more accurately, to all the manifold tasks. In this respect it must be asked, is Open Education a realistic approach to education in view of all the other social pressures on the modern teacher, or is it indeed appropriate that a teacher should be so dedicated to a single pursuit? Even if the answer is yes, a question still remains: can he be?

The examples of Pestalozzi, Froebel and Montessori, the findings of such writers as Joseph Featherstone and the modern day experiences of such teachers as Brown and Precious detailed in _The Integrated Day in the Primary School_ (Brown and Precious 1968) suggest that it is in fact possible for a teacher to implement successfully many of the proposals of Open Education. However, it must be made clear that Open Education demands much dedication from those teachers who would implement its proposals.

One further point, concerning the role of the teacher, is the dichotomy that exists between the teacher structuring the environment, delimiting the number of available activities and ensuring satisfactory progress in each subject area, and the teacher permitting each child the freedom to select and pursue an interest of his own choosing. Much has been written
on this problem and many useful and worthwhile suggestions have been made as to how the teacher can sit on the fence between teacher autocracy and student licence. However, just as clear criteria are lacking for establishing what knowledge is most worthwhile and which experiences will best develop it, so there is lack of objective criteria by which a teacher can accurately gauge whether to step in or hold back, although means by which a subjective assessment can be made are suggested (see for example Barth 1972, p. 94).

In the light of the discussion of the processes of Open Education and the role of the teacher, it becomes clear that Open Education is an approach that best fits into the elementary school. So far there is little evidence of Open Education being adopted in public secondary schools, although attempts are being made (Silberman 1970, ch. 8; also see Featherstone 1971, pp. 158-179). The reasons for this are fairly obvious. In order that the teacher can become fully acquainted with his pupils, that the curriculum and the day can be flexible and integrated, and that a wide-ranging supply of carefully chosen activities can be available to a particular group of pupils, the teacher must have a relatively small number of pupils, in his own room, for most of the day. Such circumstances only exist in the elementary school. The grouping of students by subjects, which changes as the subjects change, the specialization of teachers that requires them to teach one subject to a large number of students, and a rigid timetable, all of which are characteristics of most public
secondary schools, militate against the adoption of Open Education. Until there is a profound change in the organization of such schools, it is unlikely that Open Education can be adopted fully or effectively in them.

Although Open Education has yet to be fitted to the secondary system, or vice versa, it has been adopted extensively in elementary schools, and is increasing in popularity. Much of this popularity can be attributed to the belief that Open Education is a new approach to education. As we have seen, however, very few of its ideas are new. As has been pointed out, the only significant new ideas presented by Open Education are: extensive use of the family as a source of information about many aspects of each child; the recognition that rapid change is a significant problem and an unavoidable fact of life; the proposal that transmission of procedural knowledge is the key to handling this problem; and the explanation of means by which areas of knowledge can be integrated. Considering the vagueness surrounding several of the main ideas in Open Education, these new ideas can hardly account for its sudden popularity and strength.

There are other, broader factors contributing to its popularity. It can be seen as an answer to the criticisms of traditional schooling made by Illich, Goodman, Friedenberg, Holt and others in the late 1960's. Also the very name, nature and processes of Open Education accord with such forces in society as the present concern for political and economic disclosure, the move towards greater permissiveness and
individual freedom, the desire for institutions to act in a manner relevant to the needs of those they serve, and the all-pervasive conditions of technical and social change. These circumstances encourage both the development of Open Educational ideas and their adoption. But the specific impact of each would be hard to gauge and such social matters deserve a study of their own.

This thesis does however pinpoint four reasons for the power and popularity of Open Education: it is the first approach to education that combines many ideas similar to the significant and powerful ideas of past educators into a single relatively coherent system; secondly, although short on theory, there is extensive provision of practical suggestions for the teacher, making it easy for him or her to attempt this approach; thirdly, for the first time, ideas like those of past educators have been adapted to a public system and have been shown to work in it; finally, again for the first time, advocates of these ideas, who have collected them in a single approach, called Open Education, can justify many of them by reference to the scientific work of Piaget.

Critics of Open Education may dismiss it as a rehashing of old ideas, but the fact that the ideas have such antecedents is a source of strength, not weakness. Plato, Vives, Comenius, Rousseau, Montessori, Dewey have all been recognized for the value of their contribution to education. To adopt and unite ideas like theirs is to create a system with built-in strengths and already-established resistance to
Another apparent source of weakness is the lack of clearly articulated theory. The practicing teacher, however, feels a stronger need for practical suggestions than for theory, and there is no lack of these in Open Education. The provision of these suggestions makes Open Education attractive to such a teacher and is an added incentive to adopt its proposals.

It is significant that these practical suggestions are not made with specific teachers, social groups or schools in mind, but for all teachers and all schools. It is strongly suggested in the literature that Open Educational ideas only be adopted where appropriate to teacher and school and that adoption of them should proceed only as far and as fast as is comfortable for both. Open Educationalists intend, however, that their approach be adopted in public schools and give advice as to how it can be done. Indeed it has been done successfully.

The use of Piaget's findings, both in the establishment of educational processes and in the justification of such processes, is a particular strength of Open Education. Never before have the emphases on play, the use of tangible objects, the adoption of practical, physical activities - all old ideas - and theories about intellectual development been so soundly based on extensive research evidence.

Despite its lack of a clearly articulated theory, Open Education is strong and powerful because, above all, it has
collected together, for the first time, many ideas resembling the significant ideas of past educators into a relatively coherent approach to education, provided practical suggestions that enable this approach to be implemented in the public system and supported the ideas by reference to evidence from extensive research.
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