Mantle of the Expert.
M.Ed. Students Work.

1st class analysis of DH's Mantle of the Expert system related with educational theory.

A THEORY OF EDUCATION AS PRESENTED THROUGH
THE DRAMA PROCESS "MANTLE OF THE EXPERT"

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AN EPISTEMOLOGICAL PERSPECTIVE

A paradigm can be said to emerge from an examination of the dialectical developmental processes which emanate from the system "Mantle of the Expert". The system embraces a conceptual ordering in the construction of knowledge which evolves by way of the dialectic between "ideation and its social infrastructure".[1] The pedagogical system supporting this paradigm is set firmly in the interactionist - anthropological tradition. The ideas of George Herbert Mead and Jerome Bruner are highly applicable to an understanding of its dynamics. Therefore, it can be said that the social psychology of the Meadian tradition (which was referred to by his successors as the symbolic-interactionist tradition) and the psychological theories of Bruner whose epistemology is akin to the dialectic scheme of Mead lie at the heart of this pedagogy.

It is not the purpose of this study to examine the theories of Mead and Bruner but rather to cite them as a means of focusing through an epistemological lens the subject under examination which is the relationship between social processes and ideation as they occur in "Mantle of the Expert" and to place it in an epistemological milieu.

According to Herbert Blumer,[2] Mead gave human society a position of paramount importance in his scheme of thought. His treatment took the form of showing that human group life was the essential condition for the emergence of consciousness of the mind. Mead saw the self as a social process and not as a structure, he saw the human being as object to himself, consequently having a mechanism which provides for a self-interaction with which to meet the world. The human as agent of his own action.

> "Socialisation means not only that
> the self-consciousness of the
> individual is constituted in a
> specific form by society - (which
> Mead called the "social genesis of
> the self) but also that psychological
> reality is an ongoing dialectical
> with social structures". [3]

Berger points out that this dialectic between social
structure and psychological reality may be called the
fundamental proposition of any psychology in the Meadian
tradition.   In short, according to Berger, the reliance
on symbolic interaction makes human group life a developing
process instead of a mere issue or product of psychological
or social structure.   The simple point implicit in Mead's
analysis of symbolic interaction is that human beings in
interpreting and defining one anothers' acts can and do
meet each other in the full range of human society.

In applying the anthropological lens to this
system a picture emerges of the human in the "doing" of
his task which has a self-fulfilling learning objective
but which is also the mediating link through which the
individual acquires a meaningful relationship to his
social setting.   In her study of "Anthropology and
Education" [4], Clara Nicholson points out that education
is the process by which selves are shaped.   She points
out that it is not just through the cognitive processes
that learning occurs.   'Selves' in other words are shaped
by social processes yet these social processes are mostly
not defined in educational systems.   Culture and personality
specialists have repeatedly emphasized the importance of
indirect learning in personality development.
Abram Kardiner states:-

> "The point is that learning processes
> do not account for the integrative
> character of the human mind in so far
> as the emotional relationships of the
> individual to his environment are
> concerned". [5]

The system draws from an anthropological tradition in that the anthropologist's view encompasses a view of the "whole fabric of life". The doing of a task within a society can be uplifted from the functionalist view towards a ritualistic view according to the integrative philosophy informing the group ethos. Human social behaviour is cultural, that is, it is learned from other people in a social setting and this social setting must be defined and constructed in order that social behaviour can be taught. In "Mantle of the Expert" the social setting is created and social behaviour is modelled by the teacher but as the system is organically structured, thus growing and generating its own developmental infrastructures so too does cultural behaviour evolve through an interactionary agency with those structures. In this way what is "given" (the social setting) is directed towards a process where the "given" evolves and branches outwards from its holding social centre to a "becoming giveness". Berger and Pullberg speak generally to this point in their discussion of the possibilities of creating new knowledge structures when they say that:-

> "Sociology will only accomplish its
> task if it studies not merely giveness
> but the various processes of becoming
> giveness". [6]

Mead's proposals and the epistemological view inherent to the symbolic-interactionist tradition are revolutionary in their implications particularly for education if viewed against the backdrop of the traditional view of the image of man in relation to his world. Geoffrey Esland posits what he describes as the "objectivistic" view of knowledge thus:-

> "Knowledge is seen to be detached from
> the human subjectivity in which it is
> constituted, maintained and transformed.
> Such a view implicitly presents man as
> a passive receiver, as the pliable
> socialized embodiment of external
> facticities. He is presented not as a
> world producer but as a world produced". [7]

Esland concludes that such an epistemology is fundamentally dehumanizing. It ignores the intentionality and expressivity of human action and the entire complex process of intersubjective negotiation of meaning. Esland maintains that the epistemological sufficiency of objectivism is directly challenged by the sociology of knowledge, which insists that man is seen as existentially related to his social structures. He defines the essential feature of this tradition as deriving from Hegel's "Phenomenology of Spirit and the Economic and Philosophic Manuscripts of 1844 by Marx". This essential feature is "that human sociation is a dialectic phenomenon.":-

> "Man externalizes himself through
> physical and mental activity in the
> process of objectivation..........
> The interpretative architecture of
> the mind is at once an active and a
> passive agent in the construction of
> meaning and significance. The
> individual biography is therefore both
> a subjective and an institutionalized
> history of the self; the one acts on
> the other. Because this view emphasizes
> man's active construction of experience
> there is a clear challenge to the
> static conception of knowledge". 8

The focus, therefore, is now diverted according to Esland from how man absorbs knowledge so that he can replicate it to how the individual creatively synthesizes and generates knowledge and what are its social origins and consequences. John Shotter supports this view:-

> "Our research and thinking has been
> dominated by views of man as an
> object acted upon by forces outside
> his control........................
> the order and structure of things
> is not outside the human but the
> order is inside in the intersubjectively
> shared meanings." 9

Shotter believes that the classical image of man presented to modern psychology by modern philosophy, but obviously inherited from the Greeks, is of a man as a thinking subject set over against the world as object:-

"The classical view of man then is
at once a view of him as an isolated
thinking subject set over against an
objective world facing an essentially
theoretical task, and a view of him
as a mechanism, operating according
to laws. Epistemologically, we feel
that the only form of real knowledge
we can have about the world is that
which we have in thought, reflection
on completion i.e. objective knowledge.
And ontologically, everything that
exists in the world as we "know it"
exists as an entity constituted from
a determinate set of independent
elements in lawful motion".   10

Shotter proposes an alternative to this classical view
of man which will serve here to highlight the view of
man that informs the system "Mantle of the Expert":-

"We may view man as primarily a doer,
immersed in the world as an agent,
who has the power to act on the world
and change it to accord more with his
own needs and interests. Rather than
a being able to exist in isolation from
all else that there is, we may view him
as an organism relying for his existence
on living in a state of exchange with
his surroundings - being able to influence
them but also being influenced by them.
But even more than this; we may consider
him as living in the world in a state
of exchange with other agents both like
and unlike himself, forming communities
such that together they can do more than
they could ever do alone. As an agent
immersed in the world with other agents
in community with them, man faces, the
task of not just acting intelligently
but intelligibly and responsibly". 11

This then is the task of man, as a socially
responsible agent immersed in a community in the world
with other agents like himself; unlike the task of
man the thinker his task is to give intelligible form
to the world, his life and the living of it, not simply
to describe it; it is a practical not a theoretical task.
Such an image of man involves not only a shift in standpoint
from one in thought to another in action it is also an
intrinsically social view of man. Within the mantle of
the pedagogy under review lies such an image of man.

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DEFINING "MANTLE OF THE EXPERT"

"Mantle of the Expert" is a system enabling teaching and learning at all levels of the curriculum and integrating all areas of the curriculum. As a system of teaching its applicability covers all modes of institutions at all levels of society. It is a system of education that allows broad flexibility in its application. However, it does have its own law and authority both informing and generating the dynamic of its pedagogy. This law and authority will be developed later and hopefully will become apparent through the examples illustrated and analysed.

As a system of teaching it evolves its syllabus from the matrix of society. It is as a result socially based, concentrating on groups of people rather than on individuals - the group ethos is the norm by which the method progresses by way of interaction with work based tasks.

In traditional teaching situations, normally the expertise of the teacher dictates and ordains the communicative network that evolves and is sustained throughout the transmission of knowledge. Language researchers such as Edwards, Furlong and Barnes highlight:-

"that the forms of communication which predominate in classrooms make up a large part of what is learned there - and the inseparability of what is said and how it is said form the social relationship in which the speech is embedded. In classrooms it is their position as knowledge experts which justify teachers in owning the interaction. To the extent that their expertise is acknowledged, they will be expected to do most of the talking themselves and to evaluate what is said by others. The transmission of knowledge creates and sustains very unequal communicative rights between teachers and learners". I

Where the communication structure of a classroom ignores the dialectic processing of information the learning climate must be viewed as unsatisfactory. Edwards and Furlong speak to this point thus:-

> "Pupils are too consistently treated
> as consumers of knowledge in a context
> where they have little status and few rights....
> A large group of pupils has to behave for
> considerable periods of time as one subordinate
> participant. Their main communicative
> role is to listen". [2]

Comparing the nature of the interaction learning climates in different classroom contexts Edwards and Furlong report:-

> "differences between one transmission
> classroom and another are likely to
> be differences only on the surface
> leaving the basic structure of the
> interaction undisturbed". [3]

The First Law of "Mantle of the Expert".

The communicative network is firmly based in its first enabling mechanism and that is that the teacher endows the class with the expertise of the field of knowledge that is being pursued. By this endowment the power is also placed with the group. The teacher by investing the group with expertise also becomes a member of the group by a democratic process of negotiation. As social reality constitutes the subject matter of this curriculum and as any group of people working on a problem endeavouring to make sense of their world can be defined as a social reality the expertise then can fall into the category of the nature of any work any group of people are engaged in, at any time and at any place. To cite from the example I shall be using in the following sections. The group are expert historians who are setting up in the twentieth century a replica of a Bronze Age Village and are about to select and interview and instruct people who have volunteered to live in this village. Having enabled a group of people with a given expertise the teacher then structures educative processes whereby becoming more expert is enabled.

The path towards knowledge is inducted by a refined embryonic process towards the realization of this expertise.

The Process of Inducting into Knowledge.

As a result of the social structures set up in a classroom system where a teacher has endowed a status of expertise unto the group it is an obvious conclusion then that the communicative system must somehow be altered. A teacher cannot give direct information to an expert but instead must set up ways in which this expert will discover what he knows whilst at the same time protecting him from the real awareness of the fact that he does not have as yet this expertise. In other words the teacher by her structuring protects the student from the "debilitating aspects of ignorance". The enabling of this expertise functions through the second law of "Mantle of the Expert", this is the law of applying the dramatic imagination to the employment of whatever social reality is to be symbolically represented in the classwork. A consensus agreement must be arrived at before this is possible so at this point again a refined process of negotiatory procedures is employed. These steps are taken at the affective level of negotiation and must adhere to the laws of representation governing the conjuring of images either through the medium of verbal interaction or imaging through sign or symbol. It is at this level of gaining consensus images that the structure is being laid for the social construction of knowledge in which the group take an active part. It hardly needs stating but the only way that social infrastructures could be set up in the classroom context is by this method of imaginative symbolical construction which will function at the level of tasks. The tasks related to the given expertise are worked through at the cognitive level but are introduced through the affective mode. It is through the affective mode in which the dramatic imagination builds the outer walls of the social structures from within which real learning

evolves.

It could be argued that in the traditional teaching frameworks recourse is sometimes made in a tentative manner to the establishment of an affective context to elaborate maybe a complex concept or to illustrate an unfamiliar context. It is also true to say that as soon as the point is made this affective mode is dropped in favour of direct logical transmission.

What does the use of the affective mode yield in an induction into knowledge?

The short answer is that students become motivated towards the subject and consequently become engaged at a deeper level of understanding because they are exploring a subject from inside the context where they have the power to interact with and change such a context and from inside such a context the subject unfolds according to their principles of understanding. The student is not outside the subject in the position of passive receiver. The affective mode sustains a structure whereby an ongoing dialectic is enabled by the metaphorical world which interacts with the world of the group. Although this metaphorical world is not real the tasks that it allows offer real learning at all points of the curriculum. The affective mode enables the use of the social paradigm where all of the human skills might be encountered, practiced and explored at the level of the "one remove" which the "as if" situation allows. The affective mode in the context of "Mantle of the Expert" allows the setting up of a social matrix from which all areas of the curriculum can be embraced. Hence cognition is inducted through the affective frame and all further cognitive processes are linked and laced by affective inductions. How this is done is not the point of this study but, however, it may become clear by the following examples.

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INTRODUCING THE BRONZE AGE

The following induction is the initial meeting
with a class of twenty eight thirteen year old
boys and girls.   This stage represents the
beginning lesson on a one and a half day's
induction into a "Mantle of the Expert".

In representing this lesson here the present tense
mood is used and analysis of the lesson is embedded
in the text and following the text.

It is the teacher's talk throughout that is represented
as it was not possible to record the talk of the children.

This stage deals with the process of image-making -
before introducing the children to the key area
of the lesson where expertise will be endowed she
introduces the class to an "unlocking" process of
their intuitive knowledge.   This stage provides a
receptivity on the part of the children then for
the next stage.

*   *   *

BRONZE-AGE IMAGE MAKING

The teacher began this lesson by imaging the following

BRONZE AGE PEOPLE

on the blackboard - she allows the students time to digest this image. The class are then invited to "turn your eyes inwards and conjure up pictures in your mind of this particular time". An example of this inner image making is modelled by the teacher. She demonstrates this by articulating her inner act of seeing. She articulates her vision in the "here and now" stream of "now" time. It is by an imaginative leap of the mind integrated into the communicative texture of the interaction.

TEACHER: "I'm seeing a spear but I don't
            know how to draw it".

This is one stage in the induction towards image-making. The next stage that the teacher wants to achieve is the externalising of the image on paper.

TEACHER: "I'll bring around paper and we'll
            see if we can draw about things, it
            doesn't matter if you are not good
            at it, and while we're drawing we'll
            see the Bronze Age in our mind's eye
            and then the Stones will appear and
            we'll look up and see that the Bronze
            Age is here".

This is the initial opening of a lesson and obviously no expertise has been endowed as yet but the communication is one of induction towards an image of Bronze Ageness. The teacher at this stage refers to herself as one of the group. Reference to Stones here is in the context of six adults who were draped in black cloth and wearing stone coloured masks. These six people were to be part of the unfolding sequence of this lesson but obviously such a luxury would not always be feasible to teachers, in such cases inanimate objects would serve a similar purpose. However, they were present at this lesson and were set up as a further activator in the image making process of the lesson.

The children begin to draw and as they do the teacher protects them into this stage by affirming this activity and redefining the context:-

TEACHER: "We are trusting all our own knowledge.
            Put down whatever you think of the
            Bronze Age".

There is silence in the class at this stage as the children proceed individually to externalize their inner images. While this activity was going on the teacher signalled and foreshadowed the group endeavour of social interaction in the pursuit of knowledge:-

TEACHER: "Between us we probably know a tremendous
            amount when we put it all together".

The children were at this stage drawing very freely and with deep involvement, their imaging was mainly of objects that might be associated with the Bronze Age. In an attempt to extend their visual landscape the teacher prompted an exercise in the use of implication:-

TEACHER: "Another way of getting images is by
            seeing what you have and thinking -
            Oh! well, if they had that (object)
            they must have been able to do such
            and such."

Without any more elaboration on the matter the children linked referent images to their objects. The teacher further prompted this visual extension of landscape:-

TEACHER: "If you now have a picture of places
            in your mind see if you can see people as well".

The children made again this further link. The teacher initiated the group freedom towards exchange and interaction of ideas by:-

TEACHER: "This is not private work, feel free
            to walk around when you come to the
            end of your minds' pictures, look at
            others because sometimes this reminds
            you of more images".

When this stage was expressed and the children had walked around the classroom looking at each other's work the teacher provided another stage in the process:-

TEACHER: "When you have completed your pictures
            label the parts of the picture that -
            correspond to -
            (she writes the following on the blackboard) -
                I KNOW THIS
                I THINK THIS
                I WONDER ABOUT THIS"

This provided a space for the child to give order to his own knowledge. Although this exercise bears no relation to that of drawing in an art class, its objective not being based in the finished product of the image but more in the process of freeing and unleashing those inner mechanisms of mind which activate a further process of thought Bruner describes this process thus:-

> "Good representation then is a release from intellectual bondage. As the object takes over and demands to be completed in its own terms there is a new opportunity to express a style and an individuality. Likely as not it is so partly because we are rid of the internal juggling of possibilities because we have represented them out there where we can look at them, consider them." 1

The next stage is inducted thus:-

TEACHER: "Have we got our gallery ready?
Move papers to outside of room like
in a gallery so that we can display them".

This stage is further reinforced by drawing group together around her and gaining consensus opinion and contracting:-

TEACHER: "Well we'll go on as if it is a gallery -
do you think you could?
We will look around the gallery and
we will see how much we know between us
about the Bronze Age People. If there
is anything you see that you would like
to talk about, just say it".

It can be noted at this point where entry was made into the smybolical representation of the gallery by a simple verbal suggestion on the part of the teacher - "Well, we'll go on as if it is a gallery - do you think you could?" This suggestion is followed by the teacher modelling gallery behaviour simply by looking at childrens' images. There is absolutely no suggestion of or expectation towards emoting behaviour. The only physical change was a spatial one, the pictures were moved to the outside of the room in an ordered line and the children stood up to walk around the space. The symbolical level is in the mind and the object or task representing this level is externalised in the context of the work/task being explored. The symbolical level at this stage generates another stage in the inductory process and motivates a new perspective from which to input further knowledge.

At this stage she foreshadows what is to be the next
transitionary stage of her induction - she pressages
while at the same time injecting a note of tension;
a possibility of development:-

TEACHER: "Make sure you see as much of it
                before we get into it".

She further speaks her thoughts aloud to the class in an
attempt to bring their images to life.

TEACHER: "Would you say in the main that we
                are all reasonably accurate for the
                Bronze Age"?

A further change of perspective is installed to provide a new
frame to this subject.   This alternative perspective it is
hoped will enable the children to further organize the experience
of their image-making and consequently transform this experience
to a new plane of knowledge.   A further contract is made by
the teacher:-

TEACHER: "Can we gather around again?
                Now, do you think we could be
                "as if" you'd been in a Time Machine?"

The frame is now turned on its axis and a new lens is employed.
The visit to the gallery is transformed as having been a view
to a Bronze Age village.   By this method the truth of their
immediate past experience becomes a factor in their present/
future viewpoint.   The use of the dramatic imagination
paradoxically allows the "juxtapositioning of two dissonant"
concepts to interchange and exist side by side in the one
moment in space.   The teacher inputs the purpose of this
following exercise:-

TEACHER: "We are just going to be as if
                we visited a Bronze Age Community!"

She assures them:-

TEACHER: "We don't have to be any different
                than we are -

                (She suspends this moment in silence)

                "And we'll talk about the difficulties
                we'd seen them living under the
                different circumstances.
                Your pictures gave them life".

At this stage the teacher employs the six standing stones.

TEACHER: "Are the stones ready? Can we look at them
                from here?"

In this case the stones are providing a bridging strategy
enabling the transformation of a one dimensional perspective
development to a three dimensional potential perspective.
As well as this the Stones also provide an anchorage symbol
through which reflective memory making can occur.

    The teacher again presents and models the essence
of seeing this dimension:-

TEACHER: "That's the place we've been to -(Pause)
       I saw children laughing around the
       fire but I didn't get the feeling how
       they lit fires".

Note the word "feeling" - this stage is focused completely
on activating intuitive knowledge. She further amplifies:-

TEACHER: "That's the place where the Bronze Age
       Village was, now try and see all the people
       living around the place, building things.

       Did you see anything? (To children)

She modelsagain a way of seeing in the mind's eye.

TEACHER: "I saw a woman dealing with a sheepskin,
       she seemed to be scraping it,
       trying to make it soft".

       "Did you see anything else?"

She assists the children form their images in the verbal mode.

TEACHER: " Did you see any sick people?"

CHILD: " I saw a man on a stretcher".

TEACHER: " Was the stretcher made of skin?"

Teacher extending child's image in context and further continues
to input information.

TEACHER: " I wondered about that loom with
       the things hanging on it!
       Did anybody else see it?

CHILD: " I saw a boat".

TEACHER: " Was it a big one?"

CHILD: " No, a little one".

TEACHER: " Did you notice what material
       it was made from?"

CHILD: " A tree, I think"

ANO. CHILD: " I saw a bronze knife".

TEACHER: " I didn't see any querns for the corn.
       I saw a woman on her knees.
       Did you see anybody near the stones?

       (To child who saw the bronze knife)
       I was impressed myself the way the
       man I saw making a spear was actually
       moulding it. I wondered how he

TEACHER: "managed to get the metal hot
enough to melt it. He seemed to
manage well, he must have solved a
few heat problems".

The teacher now comes out of role. Role in this
instance does not mean "characterisation" but a subtle non-
teacher, twilight role, a facilitator, almost on the edge of
the proceedings whose function is to guide the way in
whatever direction the lesson is pointed. Out of role the
teacher recapitulates on what the group had been doing.
The reflective element of this pedagogy can provide and
dictate the next goal to be worked towards.

TEACHER: "I've been trying to awaken in you
any knowledge you might have about
the Bronze Age because this is going
to be our problem for the rest of
the day".

One of the "freedoms" in the use of the dramatic imagination
is that the outer logic of events becomes subservient to
the inner logic. Children feel no confused break of
meaning - it feels natural inside the event rather than
looking coherent.

She passes documents around the class, these
documents will provide the next frame of the process and
is the key document enabling expertise by providing it.
This whole stage of image making has been the precursor
to the stage where actual expertise will be endowed.
It is this stage of image making that makes the next
stage feasible.

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IMAGE MAKING FRAME ANALYSIS

The internal coherence of this stage of the lesson seemed to be encapsulated in the form of a symbolical journey routed inwards towards the individual psyche and then progressing outwards to a route where the collective expressions were made public and then taking a route back in the history of the communities of humankind.

This nexus, linking inner self to outer selves, and present to past to future - forms the matrix of the dynamics from which the processes evolve in the induction into knowledge. The stages then on this symbolical journey served as a space from which to observe and reflect on the route travelled. The first induction of this journey was the travel inwards towards the mind's eye, the objective being to cause an interaction of the image of the Bronze Age with intuitive knowledge. This stop en route yielded an unravelling of the students' own image-making processes, the expressions of which were to form the material for further developmental stages. This stage also enlisted their participation in the lesson. Douglas Barnes comments on this aspect of making meaning with students to the effect that you cannot expect children to arrive at cognition without having travelled. Travel towards cognition it would seem is via an affective route. At this stop the image-making process allowed students to externalise their inner ideas and consequently share and interact with the expressions of the group, thus expanding and assimilating further perspectives. The frame in which the group interaction was made possible was created by the teacher when she negotiated the existence of a gallery. When the detail of this stop was understood and made manifest the journey continued and the next stop was negotiated and contracted through the teacher. The function of this stop was to provide symbolically a further distancing convention (the time machine). "Do you think you could be as if you'd been in a time machine?"

The concept "time machine" is employed here to enable a way of seeing rather than a way of being. The symbolical object is not important in itself, it is what it enables that is of importance. Emotional orientation is the dynamic element in this pedagogy in the ongoing process of perception and cognition. At this stage then the distancing ingredient which allows a more objective view of a Bronze Age Community is being formed. The perspective of the gallery engendered a one-dimensional view and the Time Machine and the Stones generated a three-dimensional examination. From the gallery to the time machine exists the transition whereby the images are being distanced from their makers. Having travelled deep into the making of these images the students are now being guided symbolically as far away as possible in an attempt to breed further meaning. The students are protected into this stage by the teacher assuring them that they don't have to be any different than they are but that they could now talk about the difficulties that they had seen the Bronze Age People living under. The employment of the three-dimensional nature of the Stones provide a symbolic medium for the conception of such an experience. The Stones at this stage assist in that imaginative leap from talking of the pictures "as if" they were real images of a particular time to "seeing" these images come to life around the stones. These transitionary stages are not expected to happen without the enablement of a negotiatory scaffolding:-

> "That's the place where the Bronze Age
> Village was, now try and see all the
> people living around the place building
> things".

The teacher constantly at this building stage is inputting information through the affective mode in the context of the frame without ever giving direct information. She also protects the students again into this mode by modelling, thus saving the child from the pressure of having to give a "right answer". "Did you see anything?" She inputs information presenting the context:-

"I saw a woman dealing with a sheepskin, she seemed to be scraping it, trying to make it soft". The children now volunteer what they saw, they are now becoming involved at the verbal level in the construction of image-making. As well as the teacher giving information indirectly through the metaphor, the teacher was also building belief in the existence of a group of people, their culture at a certain time in man's evolution.

The process of image-making is an essential part of the dialectic of knowledge making. It is an integrative part of this system and could be seen as the first enabling step to be taken in the dynamic pattern of this pedagogy. Bruner would seem to suggest that knowledge and mind are two sides of the same coin:-

> "If the structure of knowledge has its
> own laws, makes its own contribution
> to the economical use of mind, one must
> necessarily look to such a structure
> for hints about the nature and uses of
> mind". [1]

Mind does not necessarily imbibe knowledge in the way a camera takes in a picture, mind is not mechanical but organic and the assimilation of knowledge is governed by a growth process. Bruner speaks to this process:-

> "The binding fact of mental life in child
> and adult alike is that there is a limited
> capacity for processing of information -
> our span as it is called can comprise six
> or seven unrelated items simultaneously.
> Go beyond that and there is overload,
> confusion, forgetting. For this reason
> it is essential that before being exposed
> to a wide range of material in a topic,
> the child first have a general idea of
> how and where things fit. It is often
> the case that the development of the
> general idea comes from a first round
> of experience with concrete embodiments
> of ideas that are close to the child's
> life. The cycle of learning begins then
> with particulars and immediately moves
> towards abstraction. It comes to a
> temporary goal when the abstraction can
> then be used in grasping new particulars [2]
> in the deeper way that abstraction permits.

Intuitive knowledge however one defines it cannot be ignored in any process which involves humanization and socialization.   Susanne K. Langer sees intuitive knowledge as:-

> "The undifferentiated unity of the perception of the real and of the simple image of the possible.   In our intuitions we do not oppose ourselves as empirical beings to external reality, but we simply objectify our impressions whatever they may be".[3]

Langer develops the theme of intuitive activity and sees it as a necessary and fundamental stage in the development of human mentality:-

> "The expressive activity" whereby impressions are formed and elaborated and made more amenable to intuition is I believe the process of elementary symbol-making; for the basic symbols of human thought are images which mean the past impressions that begot them and also those future ones that exemplify the same form. That is a very low level of symbolization, yet it is on this level that characteristically human mentality begins".[4]

*   *   *

NOTES AND REFERENCES

1. BRUNER, J.S. (1965) "The Act of Discovery"
   On Knowing: Essays for the Left
   Hand

2. BRUNER, J.S. (1965) Ibid., p.87

3. LANGER S.K. (1953) Feeling and Form p. 389

4. LANGER S.K. (1953) Ibid., p. 389.

*   *   *

INTRODUCING EXPERTISE

The key document enabling expertise and signposting many areas of the curriculum is introduced in this stage of the lesson.   The key document comprises the world of expertise.   In overlaying the expertise on the children, the teacher allows the active knowledge of the class to be expressed through the expertise that is visited upon them and can consequently diagnose from the children's active communication with this world what bridges to design to enable a meeting point in which the child can interact with such an expertise.

Presentation of lesson is recorded in the present tense mood and analysis is embedded in text and following text.

*   *   *

ENABLING EXPERTISE

The teacher's material for this lesson is thirty application forms from thirty different people with letters attached to each pair of application forms. (See Appendix A). The application forms are in sets of two, that is, from couples wishing to become members of a proposed Bronze Age Community Project which is being set up to provide research data for town planners and architects. The letters accompanying the application forms state the applicants' reasons for wishing to join the project. This twofold statement from proposed applicants provides two channels from which to examine their personalities; the letter accounting for the applicant's own personal reasons and the application form requiring a formal accounting. The class were given the following document as explanation for the proposed project, this was also the document which advertised the project to the symbolical applicants:-

"NOTES TO GUIDE APPLICANTS"

"It is proposed to make a study of the ways in which a specific environment might affect the behaviour, attitudes, social living and ways of getting on together of a group of people who will agree to live as a Bronze Age community. The particular site of the village is close to a Megalithic formation of six standing stones and the people selected will have to live in close proximity to these and recognise how this may affect their daily living. They will, therefore, be interviewed at frequent intervals (still to be decided) so that evidence of the effects of the architectural environment may be collated.

"This research ultimately is for the benefit of town planners and architects who must now begin to consider the ways in which strange environments may affect humans e.g. living on space stations, new town centres with differing proportions of building and so on.

"The site will be prepared in advance
as a Bronze Age site - all needs to begin
the project will be provided e.g. -

- Bronze Age tools and utensils.

- Yarns as necessary for fabric.

- Animals, fences etc.

"Instruction in fencemaking, buildings
suitable for the period and working
with bronze etc. will be available before
the date of formal commencement.

"Candidates should be available from
January, 1st 1983.   It is expected that
successful applicants will be involved
in the project until December 31st, 1989.

The children were to be the experts employed
in and responsible for, setting up this village,
interviewing and selecting applicants which they
deemed suitable but such an expertise had to be
endowed upon them.

Hereunder is represented the opening stages
of endowment of expertise:-

The documents at this stage have been passed
out to the students and each pair of students is reading
a set of application forms from an unknown couple.   When
the teacher is satisfied that the students are involved
in the activity of reading she creates the next frame
whereby the work task of the application forms are
framed in a meaningful convention.

TEACHER: "As you can see Ladies and Gentlemen
                it is quite a problem -
                the Ministry has asked us if we
                can prepare this site and get it
                ready so that everything needed
                for a Bronze Age Village is available...

She is here introducing the formal/official history
of the context and initiating proposed framework for
negotiation.   She continues in a conversational tone
extending proposed framework into an active context
implying that she is the linking agent between the Ministry
and the Committee of Experts:-

TEACHER: "........So I said I didn't think
people would be interested.
Who would live there from 1983 to
1989?.......
......And then they said........
There is only one way to find out
and that is to advertise........
Now to our amazement people want
to live in a community for six
years.

There is ambiguous attention from the class and she
allows this element of ambiguity to manifest itself
so that she will know the linking bridge to proceed
over to project into the childrens' frame of understanding.

TEACHER: "So Ladies and Gentlemen, shall we
try and set it up?

Is there any member of the Committee
who is not willing to go along with
this?

She is hinting the nature of the expertise and the
frame of the tasks to come.

TEACHER: "Do you think we will have enough time?
Do you think we could do it by
January 1st?

She is offering power here to the class although but
tentatively and also is foreshadowing tension in the
proposed construction of this project and inviting
the group's involvement in this project.

TEACHER: "Then I said, do you want it ready
for January? so they said,
they would leave it to our judgement.

She further offers power to the children.

TEACHER: "Is anybody going abroad?

Are you going on an architectural
journey?

She hints again at a definition of expertise and as
the children have not as yet entered into the "Now"
time of this frame the teacher comes out of role to
further clarify this sequence.

TEACHER: "Can we stop there?"

This brief inductory dialogue was not sufficient for the endowment of expertise so the teacher comes out of role to re-negotiate the working relationships of the group. She contracts with the group that everybody invent a very busy programme by collaborating with another member of the group. (After group collaboration teacher goes back into role).

TEACHER: "Let's hear what amazing things we are doing?

She models an example of work in the context of the expertise she is endowing.

TEACHER: "I myself have been asked to classify Elizabethan objects that will come up with the Mary Rose -
As you know they will be lifting that ship soon and I have promised to work there for November.

This indirect giving of information provides a bridging strategy by way of a presentation of the work an expert might be engaged in. She addresses a student.

TEACHER: "What are you doing sir?"

STUDENT: "Exploring caves in France"

TEACHER: "You know they just don't think when they ask us"

She uses elaborative conversational tone to establish outside world structures and is implanting the possibility for potential infrastructures.

STUDENT: "Well, I'll be going to the U.S."

TEACHER: "Oh! will you be visiting the Indian Sites?"

She is offering a vehicle for their active knowledge to be expressed and at the same time offering child a further extension of his expression.

TEACHER: "Will you get to Hawaii or Alaska?

AN. STUDENT: "I will be dealing with old ceremonies."

TEACHER: "Oh! Will you be setting them up to have a look at them?

She is foreshadowing the nature of the proposed work.

AN. STUDENT: "I will be excavating an Anglo-Saxon Village"

TEACHER: "In England or the Continent?"

AN STUDENT: "I will be classifying Aztec artefacts".
TEACHER: "I don't know much about them"

She is here conceding to his expertise and again allowing
a platform for his active knowledge to emerge.

AN. STUDENT: "I will be going to Egypt to lecture
                 on historical sites.

At this stage it would appear that the children have
grasped the nature of their expertise.   The teacher
now extends this frame to the visual medium to implant
a further sense of commital towards task and to engender
a sense of their work power.

She writes on the blackboard a month by month calendar and
attempts to elicit responses of commitment from students
by enunciating each month and enquiring of peoples'
availability during each of these months.   This allows
a further realization towards internalisation of their
expertise.   She begins with May as this was the month
in which this lesson took place.

TEACHER: "How many are available in May?

Teacher again presents by modelling and presenting commitment.

TEACHER: "Well I'm available - so I'll mark a tick".

Teacher has further established herself as a member of
the group.   She now asks the group to work out their
calendars in order to work out exact dates of availability.
She implants information which foreshadows a further stage
of the lesson.

TEACHER: "In November you do realise it will be
                 very cold"!
                 I'm also thinking that we might get
                 a few tents and things to make
                 ourselves comfortable"

Having at this stage at least implanted the nature of the
expertise of the group she moves to next stage.

"LANGUAGE - AS SOCIAL SEMIOTIC"

TEACHER: "We've come to the next part of the problem the sifting of the application forms - I'd like you to make a judgement as to whether these people can stand up to the problems. You are the historians after all and archaeologists and so on. I have a feeling with your expertise, your experience of working abroad and so on you should be able to judge the letters of these people. If you spot any snags put a note on the application form."

She has now fully endowed their expertise and they are now being led towards such expertise and enabled with the power to express it.

TEACHER: "Has anybody got an application form from a builder or an architect?"

She offers them the power to express their expertise by enabling the focus point of a clear given reading objective.

TEACHER: "When you've read them - can you make a few notes so that when we come to talk about it we shall have all our minds made up. So prepare your case and we shall see what happens".

She models again by way of presentation of a way of reading and processing the information given. She does this again indirectly by way of an elaborative pondering tone.

TEACHER: "These people won't be able to get away from each other".

She presents and models an approach to the task in hand by reading from her application forms as she too is one of the group.

TEACHER: "Listen to this, there is a man here whose application form is only amazing. He's had four careers and he's only thirty! I don't know if he'd settle well or not, just listen to his career - and we're saying he's got to spend six years in one place.

She has now caught the group's attention at the affective level and proceeds to input points in discriminate and interpretative reading by actively modelling such a reading.

TEACHER: "He's been a history teacher for
             three years" -

(She ponders in role) .....

             "Now that could be helpful I suppose -
             but then he has edited a magazine
             and he never said what sort!"

             "And then he's gone and worked for
             a building construction company.
             Either he's a very clever person
             able to turn his hand to anything
             or else he's not a sticker".
             Four careers and he's only thirty!"

In this reading she has demonstrated a way of reading by
actively drawing implications from the facts given and
projecting an image of this man into the image of the
Bronze Age Man.

TEACHER: "What do you think?"

She offers them the power and the initiative.

TEACHER: "Do you think it suggests that he
             could turn his hands to anything
             or else he has a bit of a problem
             when it comes to sticking things
             out?"

Teacher modelling alternative inferences.

As the children continue reading and collaborating with
each other the teacher reminds them of the background
context in which the applications must be read.

TEACHER: "Remember whoever we select we
             are landed with them, and we've
             got to be sure they'll manage it -
             so we've got to be very, very careful.

Teacher is urging a deep reading.

STUDENT OF: "We've got here an application form
A PAIR   from two people who both spent seven
             years studying to be a priest and
             then went to Nigeria to do
             missionary work".

Teacher extends this context and qualifies by:-

TEACHER: "Well I suppose they are both
             used to being a bit cut off,
             maybe that would be useful.
             You can ask the meeting about it
             later.

This deferral from teacher provides the important release from the need to do it immediately as is the case in direct teaching while at the same time implying that at a meeting later each pair of students will be presenting a profile of their applicants.

TEACHER: "Does it suggest that they still want to be priests or have they stopped being priests?"
You know sometimes you can get a hint of these things in between the lines".

To Group -

TEACHER: "Have you decided whether you feel these people would be suitable?

Well we'll hear about them and take a decision on each pair and then we'll go and visit the site and see if we can get it started".

"Would anybody like to discuss their pair with us and tell us what they think about their applicants?"

She inputs a further clarification frame before the students actually discuss their applicants.

TEACHER: "Now what we are doing is we are trying to decide together whether we would accept these people remembering how they are going to have to live".

She evokes a reflection for yet further clarification of exercise.

TEACHER: "Do you remember when we visited the site and we saw the woman cleaning the skin and the woman trying to make the fire and so on..................
this is what we are expecting these people to be able to learn how to do in order to explain later to psychologists what it is like when you have to live your life in the shadow of six great stones, no electricity, nobody else except the people in the village - completely self-reliant".

She is focusing memory of class on a previous frame that the class have experienced (the image-making sequence) which will inform their reading of the application forms and anchor their perspective.

The teacher inputs further (it may be noted at this point that at the initiatory stages of endowing expertise the teacher is constantly pursuing every avenue into the area

of expertise in order that the broad concepts may be grasped at as many levels as possible.

The following is spoken in a quiet atmospheric voice conjuring up images:-

TEACHER: "And they're going to have to celebrate the festivals in the old ways as well.

Foreshadowing cultural research patterns.

"They're not going to be able to write letters to their families for six years...so it's quite a serious matter and in my case (looking at application form she has in her hand)......
I don't think they're bothered to read enough into it before they applied".

*   *   *

INDIRECT TEACHING THROUGH METAPHOR

STUDENT OF: "She's forty-seven and is qualified in
A PAIR   shorthand and typing, in clerical work
                  but she hasn't had any outdoor experiences..
                  and she just does typing and shorthand..."

TEACHER: "Not much use for shearing sheep".

Teacher is modelling ways of processing information
by supplying a linking verbal image to juxtapose the
written information of applicant's image.

STUDENT OF: "Oh! they have chickens and pigs...
A PAIR   but they're not allowed slaughter
                  them..so they have no experience of
                  killing animals.."

Child here drawing implication from information given.

TEACHER: "But they actually have looked after
                  animals have they?
                  But they don't know how to kill them"

Teacher is affirming information offered and at the
same time resonating for the group understanding.

TEACHER: "The thing that strikes me about that
                  is...the age......forty-seven.....
                  is it a lady?"

She signals non-verbal pondering attitude as a group member.

She initiates a rule from extension from facts given.

TEACHER: "Is there any limit you want to
                  make on age - ?
                  Do you want to test a forty-seven
                  year old lady?"
                  She'd be fifty-three when she'd
                  finished the project"

To students who are handling this application form.

TEACHER: "Does she suggest she's in good health?"

STUDENTS: "It says she's been in the St. John's
                  Ambulance for twenty five years".

STUDENTS: "She would be useful if anyone had
                  an accident..."

TEACHER: "Yes, as long as she is not expecting
                  nice clean bandages to come out of
                  a box - but she'd at least know which
                  parts of the body could be put together
                  if they got broken...that could be
                  quite useful..

STUDENT OF: "Her husband is fifty-two...that
A PAIR   would mean he would be fifty-eight
                at the end of the project."

TEACHER: "Well they must get on alright
                if they're....
                Are they still married?
                I mean do we have any evidence?
                If they have put up with each
                other for that time they probably
                would be alright for another six
                years"........
                You see there would be no divorce -
                You couldn't arrange divorce or
                anything!.....
                Unless they had divorce during the
                Bronze Age. I don't know about
                that matter."

Teacher extending content frame to drawing conclusions by
which means a further concept is introduced from content
of discourse.   These issues and concepts don't need
dealing with here but can be introduced if the teacher
so desires as the social infrastructures of this drama
develop in a frame that will be integral to the organic
development of this project.

STUDENTS: "It says they both have experience
                in leadership and organization".

Teacher models implication of statement:-

TEACHER: "Oh! they'll know how to handle
                people".

STUDENT: "You see, the man worked in an
                open prison".

TEACHER: "Worked in an open prison"

Surprised amplification.

To group:-

                "What do you think?"

Giving group the power and the responsibility.

She completes the sequence by summarising thus:-

TEACHER: "So here's a lady with shorthand and
                typing - they've reared pigs but
                never killed them because they've
                never been given a licence -
                experience in leadership and knows
                something about St. John's Ambulance work".

She offers group invitation to draw their conclusions.

TEACHER: "What do you think?
             Should we interview them or not?"

There is much discussion by group within their own
sub-groupings and no decision is taken.   This problem
is left in abeyance for a future frame when more expertise
can be brought to the solving of it.   Problems in this
work do not necessitate immediate answers but are allowed to
grow in context of the expertise until a sufficient state
of competence is achieved for their resolution.

TEACHER: "Could you put a note on the file
             that we really must have a close
             look at them, regarding their age!......
             They could be quite well preserved
             I suppose.

She offers an alternative to rejection of problem.

The above interchange served to model the function
category of the lesson, as the lesson progressed and
the variety of problems were posed by the application
forms, discussion became more energised.   Each application
discussed served to extend the concept of a Bronze Age
Community and to move towards an awareness of the concepts
involved.

From an application from a husband and wife
application the students read out firstly that the wife
had claustrophobia which fact caused much discussion
and led naturally to a consideration of the physical
living conditions that would exist in the community.
Her husband, however, was a veterinarian.   Whilst the
discussion is still raging among the sub-groups the
teacher addresses the group:-

TEACHER: "I must say I'm interested in the
             veterinarian experience of the man,
             presumably he knows how to look after
             animals.....maybe he would know how to.....
             deal with them.......for food!"

A subtle input inferring the nature and source of
food for this community.

TEACHER: "Does he suggest whether he is a vet
looking after cats and dogs or is
he a vet that looks after farm
animals.

STUDENT: "He's a partner in a practice..Oh!
yes he has got some farming experience.

To Group...........

TEACHER: "You do realise we are going to
have to get some wolves into the
area and maybe the odd civet
because we have to create the
environment as close as we can
to the Bronze Age and that means
if we're putting wild cats from
Scotland in and that's I think
the only place we could get them...
So obviously not only have we to
deal with people who can handle
animals that need looking after
but they will also have to handle
the hunting of animals that might
come and steal.

The teacher from the context of the interchange of
information uses the opportunity as a vehicle to
input further information.   The veterinarian signposted
the world of animals which in turn signposted the
environment which in turn introduced the broad area
of ecology:-

TEACHER: "Does anybody know where we could
get any wolves?
I'm not sure where they exist these days".

CHILD: "In a Safari Park.....

The teacher affirms this statement and continues:-

TEACHER: "There are very few people alive
who know the habits of the wolf
and for what we know they (the Bronze
Age People) might lose their first
set of animals quite early because
they are not aware of the particular
habits that wolves have got........

They won't know for example and I
don't either how thick the pelt of
a wolf is - how sharp the spear needs
to be to penetrate the hide of a wolf.
I don't know the habits of wolves to
that extent.
I believe they tear the throat.

To Group -

TEACHER: "So what do we think?"

Teacher focuses previous discussion by extrapolating main facts. She offers them the choice:-

TEACHER: "Claustrophobia but Veterinarian skills, shall we interview them?"

There is agreement from the group but the teacher further refines the decision by asking:-

TEACHER: "Are there any reservations that you think should be raised at the interview?"

STUDENT: "We should ask her doctor what he thinks of her condition".

TEACHER: "Yes..."

She uses this "doctor" content which is given naturally by way of the above interaction to forge her next link in the dialectic.

TEACHER: "Oh! yes, have we got a doctor applying? Has anybody got a doctor applying?

STUDENT: "I've got a nurse".

TEACHER: "Oh! good".

STUDENT: "Well one of them, has a dog and she doesn't want to go without her dog so she seems..she doesn't seem the type of person who would be good at transferring herself.

This student initiated the field of discourse and is quick to draw a hypothetical deduction which is quite an advanced cognitive skill for a thirteen year old.

TEACHER: "Umm...
What sort of a dog is it? Is it a wolfhound or a ....?

STUDENT: "It doesn't say, it just says "my dog".

Teacher opens this matter to the group:

TEACHER: "What do you think?"

There is indecision on the part of the group.

TEACHER: "Better make a note to check the breed".

OTHER STUDENT: (of pair)   "I've got a nurse, she's thirty-two. She has completed four years of nurses training, she has also completed a six month's certificate course in Homeopathy. She has picked potatoes in her uncle's farm".

TEACHER: "Oh! I hope she's not expecting
potatoes there......
there will be no potatoes -
As you know -
And you know why - ".

Teacher uses a minor feature of the content relating
to "potatoes" to signpost a major area of the context
which will be food and crops.

STUDENT: "She's had a six month break
from nursing and she worked as
a veterinarian assistant...
and she has worked the last ten
years as a qualified nurse."

TEACHER: "She could be quite useful..."

The teacher signs a pondering attitude...

TEACHER: "...potatoe picking and what
did you say?"

STUDENT: "She just did the potatoe picking
on her holidays"

Student here is actively qualifying due to the inexpertness
of the teacher's question.

TEACHER: "Is she the one that has the dog?"

STUDENT: "No".

TEACHER: "What about the one that has the dog?"
What's she got to offer?"

The teacher is promoting discriminatory reading.

STUDENT: "She's worked as a wardrobe assistant,
an au-pair in France. She's been
teaching english and history for the
past six years".

TEACHER: "Wardrobe assistant...'em...

She amplifies and resonates this feature to group and
extends and qualifies:-

TEACHER: "She may be very good with her fingers,
very inventive."

This point foreshadows the need for personal skills
in the context of the Bronze Age Community.

She directs the group towards another focus point:-

TEACHER: "There's no children in my applications".
Has anybody got any children?

At this stage she remembers that the previous applicants'
case had not been formalised by the group decision.

TEACHER: "Oh! hang on a minute!
What are we going to do -
are we going to interview this
lady about the dog? and the other? -
she seems alright".

There is argument among the students themselves over the dog.

TEACHER: "You better put a tick and a query then".

At this stage the "tick"/"query" classification is understood and is actually being used by students in a natural sequence.

STUDENT: "There is a four year old child here...
              but he seems a bit young...
              they think he'll get good education
              if he goes...he likes to be out
              in the air...

The student here initiated the field of discourse and is drawing inferences unaided.

TEACHER: " He'll be ten years old when he comes
              out of the Bronze Age Village...
              ..of course, he would have seen
              electricity now...
              Does anybody know...If when a child
              knows things at four....
              Will he remember them by the time
              he is ten?

This pondering question is delivered almost in a thinking aloud voice which is projected from the child's frame of thinking in an attempt to open the debate among the group. There follows much discussion among the students but this is, however, indistinct on tape recorder. It should be stated that the discussion among the group was quite heated and assumed moral overtones which were unequivocally aired.

The teacher in an attempt to provide an alternative focus point directs the attention to an immediate problem:-

TEACHER: "I couldn't possibly let him have
              ordinary school - he would have to
              live like....."

This open-ended statement signposts definite conditions surrounding a Bronze concept of school but they are not overtly stated. The teacher further elicits a response by the following catalystic rhetorical question:-

TEACHER: "I'm just wondering whether it would
              be good education for him?"

She combines present subject with past discussions:-

TEACHER: "What do you think?
              He would certainly know about wolves....
              .....how to kill pigs..."

STUDENT: "He mightn't know the essential things".

TEACHER: "No..... 'em.....
            Of course....he'll only be ten when
            he gets out...maybe...he could catch
            up on the essential things.

The teacher is affirming the child and honouring his
opinion.   She puts the matter to the group:-

TEACHER: "What do you think?

STUDENT: "But...there is a teacher applying!
            ...the one with the dog..

Student is making a combinatory link with previous information.

TEACHER: "Oh! I hope it's not a teacher with a dog -
            What does she teach, children or dogs.

This is but an alienation joke offering some light relief.

STUDENT: "Laughs.....She teaches english and history.

TEACHER: "English and History...the essentials?...

This is a deliberate echoing of previous statement in
rhetorical mood.

STUDENT: "English and Maths are the essentials.

The student in this case is adamant as to the correctness
of this statement.

TEACHER: "Well, the thing is - is it important
            that all these people can do maths, if
            they are going to be living in the
            Bronze Age?.....
            And is it important that this child of
            ten, will never have had a sum book till
            he's ten?
            This is what we will have to consider.

There is further debate among the students, again of
a heated nature with no resolution evident.
The teacher again proceeds in one of her thinking aloud
yet presenting an alternative perspective deliveries.

TEACHER: "I don't know whether they'd need
            maths in the Bronze Age...they must though
            have done all sorts of measuring,
            mustn't they?................
            I mean how did they know how long
            to weave a piece of cloth?...
            or how much wool to bring off the
            sheep to make it or what?".......
            ....
            They must have worked out something -
            must'nt they?....

TEACHER: "I mean that man I had seen in the village definitely had measured the bronze...he knew exactly how much tin to put in that copper... so he must have been using some sort of calculations because he couldn't have made bronze. Maybe the boy would get his maths!

The teacher is evoking the previous frame of the Bronze Age landscape and offering information through this image. She asks a direct question of student who is handling the application concerning the child.

TEACHER: "Is he a boy child?

This is another lever with which to swivel the perspective.

STUDENT: "Yes - his father has been an apprentice on a farm...he's worked a lot with plants.

TEACHER: "Oh! that ties in (to student who was dealing with the Homeopathic Nurse).

Didn't you say there was a Homeopathic Nurse....
Those two could be quite useful if they know about plants...
They're going to have to be able to heal themselves are'nt they?

The teacher is further inducting towards the extension of context and also allowing the child debate to settle. She is actually giving information here in the guise of seeking information:-

TEACHER: "I'm not sure what these homeopathic people do!
Are you?

STUDENT: "I think it's something to do with herbs and medicine.

TEACHER: "I thought it was something like that but I wasn't quite sure.

Well what do you think?
Should we interview the person who has the child?

The reaction from the group   an unequivocal "NO".

TEACHER: "But what excuse are we going to give? If they're prepared to sacrifice six years for this study - we are going to have to be ready with a very good excuse as to why they can't bring their son".

There is much passionate discussion among the students for a considerable time, again indistinct on tape recorder. One conclusion being the majority expression - that the child will have missed such a lot when he gets back in 1989.

The teacher again in a pondering thinking aloud voice provides an alternative world view:-

TEACHER: "We don't know really what it will be like in 1989. I'm not suggesting the wolves will have taken over but we just can't predict whether his experience might have been quite useful... He might have developed leadership qualities.....he'd be very independent - I mean - do we want independent people in England - that's the question......?

And I suppose the real question is, would you bring your son into the project?

The group reaction is again a forceful collection of collective "No's".

TEACHER: "I'm not so sure. I think I missed a lot when I was little - with doing these essential things - I mean...I don't know how to skin a rabbit. Oh! you never know when it might come in useful.

The preceding interchange causing the intransigent world view or at least reflecting the thirteen year old world view poses many questions about the society in which our children are educated. Does our curriculum impose a rigid world view? Perhaps this is a question for another paper. One student spoke for the group:-

STUDENT: "The boy could be taught the proper subjects.

TEACHER: "Of course, he would learn a lot of other subjects, wouldn't he,? how to make a fire.

Teacher persists in presenting alternative view.

STUDENT: "Well, could they just not then, teach him the basics before they took him with them.

TEACHER: "Em...You know, my problem is I don't know what the basics are...

You see I think that is a basic..and then..I think this is..

We'd have to guide them as to what are the basics -

Teacher again offers responsibility of choice to the group:-

TEACHER: "What do you think?

STUDENT: "They could just teach him the basics of maths and english.

There is no movement from entrenched view of group.

TEACHER: "Well he's four now - you'd have to give him a special course and decide what it is.

STUDENT: "He could bring work with him and do it".

TEACHER: "Oh! you mean a programme like school work - well does that alter the interview?

This elicits yet again another heated discussion among the group and it seems that there might be a slight movement from the position of intransigence.

TEACHER: "Well he couldn't have pen and paper, maybe...unless...we made a special allowance and said - right - he can have a bit of school time but he has to go on his own and he has to put his books away after.

This is a general reminder that no twentieth century symbols can enter the Bronze Age.
The teacher switches tone to one of transcendence - of universal reflective mood.

TEACHER: "They do say of course that trees are like books and that there is such a lot you can read into nature.

This universal mood and conjuring of verbal symbolisations is also an attempt on the teacher's part to free discussion from rigid logicalisms. Teacher now moves from the particular to the general: -

TEACHER: "You know its just occurred to me, we wouldn't be able to give them things to write with, would we?

           They'd not be able to write in English or French or any of these languages at all its quite...

Crystallised expression left open and inviting further elaboration from students.

Teacher continues and further inputs.

TEACHER: "I'm beginning to realise what problems
are going to arise here you know -
We are going to have to be very careful.
I mean, how are we going to make
them prove to us they have not smuggled
any pen and paper in?

Students at this point offer several suggestions which
are indistinct on tape recorder but some of them suggest
that the people could be given a special set of clothes:-

TEACHER: "Yes, so they would have to take
everything off in the hut and change
and give us their's to bring back
and that would mean the suitcases
that their clothes were in would
be brought back by us and they couldn't
smuggle anything in...

The teacher projects from the point of understanding
of the child.

TEACHER: "You see I wouldn't like to think
that they are all secretly writing
with modern tools if they are
supposed to be.....

What this Bronze Age Community will become will evolve
among the group and will not be dictated at this stage
so that what "they are supposed to be" is left open-ended.

TEACHER: "It makes you realise we are going to
have to be very, very careful.

The teacher has at this stage input significantly to
provide an alternative context to the child question.
She, however, asks the group finally about the child:-

TEACHER: "Can we just decide on this one,
are we to interview the people?

STUDENTS: "NO" (Representing the main group but one).

STUDENT: "YES" (This sole student is the one
in charge of the particular application in
question).

The debate is opened up again among the students themselves.
The teacher echoes the main threads of this debate:-

TEACHER: "You are not even prepared to consider
the child. But this man here(referring
to student handling application form)
says that the child would only be in
Juniors when he comes out of the Village.

Do you think he might pick it up quickly?

Teacher is amplifying and resonating the voice of the
single dissenting student.

It would appear that the majority opinion of the group is that:-

STUDENTS: "He would be a primitive when he leaves the community.

TEACHER: "He'd be a primitive, yes! I suppose so....

She honours the opinion of the group and at the same time models an alternative view:-

TEACHER: "But he'd know other things...
in some ways he could lecture almost.

He could lecture on the life of the Bronze Age.

Do you think that would compensate?

STUDENTS: "He wouldn't be able to write"

Students view reflecting here that expertise deviating from the "norm" is irrelevant to their world view.

TEACHER: "He'd only need to be able to talk for the lecture.

I just can't make up my mind whether it is better to have learned to read and write by the time you are ten or to have understood how you get your dinner; to manage when you are cold; and do without electricity.........
skin rabbits....

STUDENTS: "He would be like an alien!

TEACHER: "Oh! I hadn't thought of that, you mean he would be like a strange creature.

STUDENTS: "He wouldn't know the language!

TEACHER: "Oh! he'd be able to speak alright!
We are allowing them to speak English -
Are we not?

She is here giving the power to the group to take the responsibility for the decision. She continues:-

TEACHER: "Of course we could always give them the Celtic Alphabet and make them get on with it but that is something to decide - how far they're allowed to speak their own kind of English.

TO GROUP:-

TEACHER: "Well can I ask again the feeling of the meeting - a veterinarian skill - a farmer's apprentice - what's the mother like - is there a mother"?

STUDENT: (The student handling this case)...
"Yes. she has done a lot on plants as well...in a garden centre.

TEACHER: "You see we are losing a lot!

STUDENT: (the same student processing the application). "They could put the boy in a home for a couple of years.

This student is trying desperately to sustain his argument single handed, whether this is because he feels responsible for the nature of his task or not is another question.

TEACHER: "Well it would be six years, we'd have to put the boy in a home for..... wouldn't it?

The teacher is highlighting the reality of such a proposition. She however, honours the student's suggestion and models an alternative while still remaining in the student's frame of reference.

TEACHER: "Has he got a Granny, could he live with his Nana. Maybe he wouldn't miss his parents too much if he lived with his Nana.

What do you think?

Yet another view is offered to the group, at this stage the child is becoming personalised.

SOLE STUDENT: "He could come to the Bronze Age Village on his holidays from school.

TEACHER: "Tricky, tricky.

She uses this opportunity to extend frame to outside world structures:-

"I don't know which of you is dealing with the Press but this project has got to be closed. You know if a reporter got hold of this.....

We cannot have BBC - you know what they're like - they come in with cameras - I mean it was bad enough before the Royal Wedding, wasn't it - they crept in everywhere!

The teacher here is actually using the childrens' active knowledge to make this connection by reflecting an activity by the Press which was current at the time of the lesson. The teacher continues:-

TEACHER: "The secrecy has got to be absolutely tight.

We couldn't have a child going back to school saying where he'd been for his holidays - and telling people he'd seen wolves and that - Nobody would believe him - he could be in a terrible position couldn't he.

Again this decision is offered to the group:-

TEACHER: "What do you think?   Should we say an outright "No"? or are we prepared to talk it over with them?

The reaction of the group is somewhat less unequivocal but finally they reject this application.

TEACHER: "Looks like we've lost our first pair".

Little does that little boy know that he's changed the course of his parents' lives in being responsible for the rejection of their application.

"Right - any other problems that you can find in yours?"

This processing of application forms continued for some time, the above interchange represents but a small portion of this sequence.

*   *   *

TALK THROUGH TASK

The function of talk and task in this system can be seen as inseparable teaching tools which imperceptibly blend towards each other in their operations. However, at the level of planning the design of the task is uppermost in that it is the nature of this task that powers the talk. The task's function forms the seminal layer of the proposed course of study from which layer is generated further branching structures evolving towards a progressive complex of infrastructures.

The object or task through which the dialectic of knowledge is mediated in this system dictates the talk and consequently the nature of the interaction following dictates the meaning which might evolve. In the first section of the lesson the object was that of the task of image-making. The student was creating his own image and the talk of the teacher was directed towards the realization of this goal. The interactive processes between teacher and taught were made manifest by the stages of images expressed by the students and each step towards the construction of meaning was negotiated by the teacher with talk tailored towards activating intuitive knowledge.

The second stage of the lesson the talk of the teacher is obviously altered from that of the first stage as now the teaching objective is also altered. She is now endeavouring to endow expertise on the students. When this objective is achieved the major boundary barrier between teacher and taught in traditional teaching frameworks will have been crossed enabling students to participate and initiate in the development of knowledge. During

the negotiatory procedure of endowing this expertise
the teacher is careful to mediate through "twilight"
role and to focus the teaching image-object creating
the domain of interaction away from the direct
confrontational focus point of traditional teacher/class.
Her role is one of member of the group, sharing in the
process, but as group dynamics need a member to propose
a subject and move a meeting she has elected herself to
such a position but then contracts consensus agreement
from the group as to her position.   She is here
negotiating the steps from which expertise of students
will evolve; she does this by way of eliciting expertise
rather than imposing it and this is enabled via the
intermediary of the image both at the verbal and visual
level.   She inputs the image of expertise she is
attempting to negotiate when she recalls:-

> "..........................
> Now to our amazement people
> want to live in a community
> for six years.............
>
> So Ladies and Gentlemen
> shall we set it up?
>
> Is there any member of the
> Committee who is not willing
> to go along with this?"

Having input information she comes out of role and
contracts with the class that they build their expertise
together.   Having used two negotiations the students
begin the building of their own expertise.   This expertise
was further reinforced by the teacher through the calendar
imaging on the black-board where a collective expression of
the nature of their individual work was made manifest.
At this point it could be said that she has initiated the
students towards a structure whereby participation in
the construction of knowledge which will evolve from a
twentieth century body of social knowledge but focus on
an historical body of knowledge will begin a dialectical
interaction.   This ensuing act of focusing one body of
knowledge on another by way of a dramatic juxtapositioning
has as its broad objective a transformation of world views
fluctuating between past, present and future perspectives.

The concept of a Bronze Age Community has been input the concept to juxtapose this is the rationale informing the task of processing the twentieth century applicants who wish to become Bronze Age Community people. This processing of the information contained in the application forms, provides the next sequence of the dialectic. At this stage of the task all members of the group have equal power so the talk of the teacher is more in the hypothetical mood, she is a collaborator, one who makes discursive talk by way of moves of;- elaboration, initiation, extension and qualification of the verbal interactions of the group. The active communication in this sequence and through this particular task was one of collaborative building of realities, in other words what was emerging was the discovery of two realities - one reality was being constructed through the knowledge of another. Geoffrey M. Esland crystallizes this collaborative relationship between teacher and taught:-

> "The relationship between teachers
> and pupils is essentially a reality-
> sharing; world-building enterprise.
> As participants in classroom
> interaction they inter-subjectively
> typify and interpret the actions of
> one another, through vocabularies
> which they take for granted as
> plausible. In this way zones of
> knowledge are constructed and sustained
> in the transactional processes of
> school learning, generating the inferential
> structures which become the co-ordinates
> of future interpreted experience". [1]

This collaborative building of a reality and the cognitive skills engaged in the activity of "going beyond the information given" and projecting their acquired knowledge to the Bronze Age reality contrasts a different classroom world to that of direct transmission teaching. In such a climate the knowledge of such realities would be caged in book or workcard form for the student to digest. His participation would be that of passive observer of such a given world, he would not have the power to change or interact with such a presentation.

In the collaborative system of reality building the
student as well as participating in the construction
of such a world is also endowed with the power to change
such a world through his own agency and to link this
connection to the community in which he lives.   An
example to this point is the outcome of that sequence
debating the pros and cons of a child of four becoming
a member of the community.   The power of the students'
agencies would, however, become more significant as this
project develops.   It was through the open discussion
that the application forms allowed, that enabled the
building of a shared framework of relevance to that of
the level of the group emerge.   Halliday[2] encapsulates
the function of language as a social semiotic.   He
maintains that language arises in the life of the
individual through an ongoing exchange of meaning
with significant others.   He maintains further that
language is a product of the social process.   A
child learning language is at the same time learning
other things through language - building up a picture
of the reality that is around him and inside him.
In this process which is also a social process, the
construal of the semantic system in which the reality
is encoded.   In this sense language is a shared meaning
potential - at once both a part of experience and an
intersubjective interpretation of experience.   There
are two fundamental aspects to the social reality that
is encoded in language: Here Halliday paraphrases
Levi-Strauss, it is both "good to think" and "good to eat".
Language expresses and symbolizes this dual aspect in
its semantic system, which is organized around the
twin motifs of reflection and action - language as a
means of reflecting on things and language as a
means of acting on things.   The former is the

"ideational" component of meaning, the latter is the
interpersonal. One can act symbolically only on
persons, not on objects. A social reality (or a
culture) is itself an edifice of meaning, a semiotic
construct. In this perspective language is one of
the semiotic systems that constitute a culture
and that is distinctive in that it serves as an
encoding system for many (though not all) of the
others. This in summary terms is what is intended
by the formulation "language as social semiotic".
It means interpreting language within a sociocultural
context in which the culture itself is interpreted
in semiotic terms that is by way of an information
system".

*   *   *

NOTES AND REFERENCES.

1. ESSLAND, G. (1971)   <u>Op. cit.,</u> pp.72/73

2. HALLIDAY M.A.K. (1978) <u>Language as Social Semiotic</u>
   p. p

*   *   *

INTRODUCING   TASKS

The bridges enabled by the teacher for induction into
the area of conceptual frameworking of the lesson take
the form of "tasks".   These tasks have problem-solving
areas set into their construction.   The working through
the tasks enable the child developmentally to mature
towards the concepts inherent in the expertise.   The work
of these tasks place the children socially and in interaction
with the task the child finds his place in the pattern of
need which the task demands.   So the child is individually
placed in a self-fulfilling role where society offers
him a reflective interaction.   The task structure and
the social structure operate dialectically with his
needs.

The law of ideation then is build from inside the person
and not from outside as in other pedagogies and all further
hierarchical strategies inducting towards cognition involve
the child through a task where is is placed internally to
the problem solving construct.

*   *   *

THREE SEQUENCES OF ORIENTATION

The following three sequences are represented hereunder in synopsis form serving as examples of the processes involved in inductory teaching towards concept formation in the frame of the Bronze Age Project. It is the teacher's talk that is represented; it was not feasible to record the students' talk, particularly their private talk emanating from the work of the small grouping sections. The student talk that is represented is taken out of the context from which it related - so consequently, student talk as represented here is somewhat vague and is only used as a means of highlighting the lesson processing.

This section then will take the form of comments preceding, during the sequence and following each sequence. In the unfolding processes of these three distinct yet related lessons the framework of inducting the students towards expertise can also be viewed as a process inducting the students towards concept formation. The rationale of planning and designing, informing and substantiating this induction is that "expertise" and "concept" cannot be transmitted before having been disseminated and restructured into a form suitable for assimilation by the students in question. A crude explanation might serve for the present. The overall conceptual framework or expertise which is presented initially in the form of a key document (in this case the key document being the application forms) is overlaid upon the active knowledge and experience of the children in and through a social convention which holds the frame of the key document. The interaction then of these two worlds dictates the avenues of knowledge to be explored. In other words the "closeness of the fit"

is guaged and measured and future tasks are then tailored
to accommodate deeper understanding.   The linking bridges
from the world of the groups' active knowledge frameworks
are created through tasks which spiral organically to
fit into the proposed conceptual frameworks.
Hence the induction into knowledge is not viewed as a
static system whereby the teacher transmits ideas and
the student absorbs them; the induction is seen as a
dynamic process enabling a heuristic system to unfold
whereby concept formation is made possible.   Bruner's
theory of knowledge would seem tocomplement the practice
inherent in this system at this point, he believes:-
"that the child's appraisal system and its generative
power develop dialectically with the teacher's structuring
of knowledge."

The theoretical framework surrounding these
processes shall be dealt with as they occur and in more
detail in the conclusory stages of this study.   In this
context, however, suffice it to say that the planning for
such work is conceived and designed from the top downwards
and the sequence of instruction is designed and structured
from the top down, that is, the broad conceptual framework
of the course of study is conceived and planned firstly
and secondly is structured into its equivalent perceptual
domains.   The path is found that will lead to the
concept.   The planning is not as is often erroneously
understood from the bottom upwards.

THE FIRST SEQUENCE

It is the teacher's aim in this lesson to induct the student's towards a site. She plans through the negotiation of a symbolical landscape a process to begin that will enable the children to experience through tasks related to a real landscape the essence of a natural habitat. The constant juxtaposing of the real and symbolical levels of experience will be used in an inward/outward dialectical relationship through the agency of images, symbols, task and talk. The construction of this site will form the basis from which the seminal foundation of this course of study will grow. In order to enable this process to evolve she has selected the symbol which will embody the form from which the lesson will generate. The symbol is an actual real map. The form of the exploration is seeking a landscape, which will become a home for the Bronze Age Village. This form has a structure which embodies its theme, the theme being exploring the map for conditions necessary for a Bronze Age Site.

The Lesson Begins:

All children are around the map and a discriminatory reading of the map is being negotiated by the teacher's questions:-

TEACHER: "Supposing somebody were desperately ill could we get them out in time to see a doctor?
Is it far enough away so that if people are driving by in cars they never realise that behind these trees there is a whole Bronze Age Village?
Its location has to remain a secret for six years".

The children offer serveral suggestions from their reading of the map. The teacher's questions frame their reading of the map. Each suggestion is discussed in context

for its merits and demerits.   In this way the features
of the map are being taught through the focus of the present
given symbolical context.

The Highlands of Scotland are suggested among many other
places, the Highlands are discussed in relation to
accessibility, soil and climate.   The teacher causes a
transformation of these details which have come to life
through elaborative, active communication which she
projects imaginatively into the "now" time context of
the symbolical situation:-

TEACHER: "If they misjudged growing beans, we
                might find them starving because
                they can't grow their crops;.....
                so we have to put them where the
                ordinary things in life are available
                like timber for their communal huts
                and goat houses and piggeries.

Through this verbal projective imaging she is inputting
information to assist the construction towards meaning
in the present frame.

TEACHER: "Has anybody been to a place
                where they think might be suitable?

This question allows an elaborative communication to
follow, here she is tapping their everyday knowledge.
She amplifies and resonates their responses and weaves
them into the present context.

        As this encounter with the actual map has
yielded the thinking processes necessary for an
examination of a symbolical site the teacher now begins
to construct the dramatic bridging symbol necessary to
this transition:-

TEACHER: "If you like we could go to
                the site and delay the decision
                of where to locate our site because
                in drama we can make the site as
                we like.

"Drama" here refers to the symbolical level of
exploration the dramatic imagined world in which
the real tasks are given social structuring.   It is
not a "play-acting" world.

The bridging symbol she uses to locate the site symbolically for the next stage of exploration is that of the six stones.

TEACHER: "Now we fix the stones and the way we want them on the site".

She invites the children to partake in this activity:-

TEACHER: "We'll fix them so that we get to a stage where we say "Right"........ "that is how the stones have been ever since the very beginning....

She negotiates this activity of arranging and placing of the stones by a further negotiation which introduces a convention of the imagination for the employment of a distancing perspective:-

TEACHER: "Put your binoculars on"

She models this simply by placing her open curled fists to her eyes and looking in a concentrated fashion at the stones - the children follow suit.

TEACHER: "They say if you close your eyes you get a sense of distance"..

Do you like the shape of these stones?
Does anybody want to move them?

The teacher here allows plenty of time in which the children manoeuvre the stones. The symbol of the stones is creating a three dimensional object-image outside of the children's imagination and is thus providing by eliciting a sense of site location for them the location bridging link.

The teacher now feels and senses the time to be right to arrive at the site or at least to orientate the students in that direction. She chooses though at this stage a slight detour in order that the children who are of an age to enjoy a sense of adventure. She negotiates them into a Land Rover Expedition Group on the way to the site. This need not concern us here except to note that even though this section was aimed

at honouring the students' sense of adventure and
enabling a frame in which to celebrate this sense -
learning input still continued.   The teacher in
different type roles brought into being the beginnings
of a network authority systems that would be concerned
or connected with the construction of such a project,
these authority systems were the army who had shooting
ranges nearby and the farmer from whom the land for the
project was to be rented.   She then brings this
section into the actual work of the site by firstly
initiating preparatory planning for the work ahead:-

TEACHER: "Don't forget all the work we did
              this morning because we are going
              on site to check.   We will have
              to measure out the amount of land
              because the farmer said sixteen
              acres and we mustn't go beyond
              that.   So we'll need to bring
              our measuring equipment.

              What else do we need?

She models (at transitionary stages she models the
necessary input rather than direct telling, this is
a constant feature of this system).

TEACHER: "Oh! yes, wooden stakes and ropes
              to mark off the acreage for hire".

Students now suggest several items which she again
amplifies and resonates in order to project into
meaning for the entire group - an example to this
point:-   One student suggests bringing wellington
boots - she amplifies his suggestion and extends
it into a further meaning in the context of the
exploration:-

TEACHER: "Oh! yes, they might be useful,
              I don't know if there are any bogs
              but they might be useful too
              because we could get our turf then.

She continues at the site:-

TEACHER: "Number the stakes and when
we have it staked, we'll go
to the farmer.

She walks around the space as the students are measuring
the land and staking the area and she asks the students
a question which foreshadows the next link in the
construction of this sequence:-

TEACHER: "Have you seen any places for
fresh water?
Can you collect samples of all
the kinds of plants?
Have you taken soil samples and
water samples, have you labelled
them?
Will you make sure you mark them
on your maps.

The above requests were   developed through this
task on the part of the teacher and occured naturally
and not as presented above.   The skills that these
requests were designed to develop are but foreshadowed
here as harbinger for the next stage of the work.
This feature of foreshadowing is another constant
element in this system of induction, the children
are never aimless but always have a sense of
direction that their work will be taking them in.
She stops the symbolical level and now defines the
direction of the tasks:-

TEACHER: "From now on we are getting to a
stage when this is getting serious,
so you will find that wherever
you go you will need paper and
pens...
Now later on when we are more
organised we will begin to
assemble our expertise -
what we are good at - for the
moment I will ask you what you
have done, that is any work
you have done to check out
the site.

She initiates and negotiates by allowing time
for the lesson objective to be assimilated by
offering them the freedom of a sample presentation:-

TEACHER: "For the moment you can invent it.

She models an example of what she means by taking
pressure from the children and demonstrates a way
of "seeing" the site:-

TEACHER: "Just think to yourself -
              What might I have done on the
              site that would help us understand it?

              I'll tell you what I found,
              I was watching all the natural
              sheep paths and I thought to
              myself, now if sheep made
              these paths - they must be
              the paths that sheep have made
              for hundreds of years.........
              so that feature could stay.
              So I'm going to make a plan of
              all the natural sheep paths.

              Has anybody else done anything else?

There are several inputs here from the students
demonstrating a wide range of ecological understanding,
the teacher elaborates upon the student input and
the landscape is suddenly broadened by the group
interchange which is but listed here in notation
format:-

STUDENT: "I went down a metre and I found
               five different soils.

STUDENT: "A patch of herbs".

TEACHER: "We'll need a herbal to identify them.

STUDENT: "Potholes"

TEACHER: "Did you mark them - has anybody got
               any explanations.

STUDENT: "We took a water sample.

TEACHER: "Does it look as if it is about to
               flow all year?

The teacher continues to input and implant the
syllabus in the above context.

TEACHER: "We'll have to get down into
             the woods to see if there is
             any Oak because if they need
             to feed their pigs they will
             need acorns.
             Does anybody know if there is
             oak?

             We will have to do an inventory
             of the sort of trees.   Can't
             feed pigs all year round on grass!

She is highlighting a way of seeing by posing an
ecological view; tracing the interconnectedness
of the features of the landscape and how they
would relate in the life of a people living in such
a setting.   She continues to alert their "seeing"
faculties in context:-

TEACHER: "Have you seen any good fields
             where crops could be grown?
At this stage she has input the basic form from
which should generate the next stage of "siteness" -
that is - bringing the nature of the site into "being"
and establishing it for a future "becoming".
She is now giving the group the responsibility for
constructing the features of the site:-
TEACHER: "Now what I suggest we do now
             is we shall pull out some computer
             paper and each group (six groups)
             take one-sixth of the view all
             round the stones and mark what you
             see on the site, so that when we
             get back we'll put them together
             and we will have the complete
             sixteen acres.

             We'll mark everything on the map;

             When you all agree what you see in
             your mind's eye map it down.
The teacher having input the information and presented
the context and modelled the task she has given them the
responsibility for the task of creating the site and
enabled a curriculum of "expertise".
To Group:
TEACHER: "We'll have a meeting in seven minutes
             to organise and detail this map.

MAP FROM MAP ANALYSIS

The exact course followed by this orientation through a path of images and symbols signposting a specific learning domain is difficult to neatly chart. It is a process which is dynamic in its nature and movement. Guiding someone towards an area of experience in which a learning context is embedded means finding a common language. Malcolm Ross describes this process:-

> "the role of intermediary is clearly of the utmost importance - demanding extreme sensitivity to the responses of the other as well as to the qualities of the subject itself so as not to go beyond the priming of the responses system he is seeking to activate. Striking the right balance between the evocative and the discursive is very difficult - and all kinds of "conceptual" traps lurk". [1]

It is precisely this area that is bracketed between the parameters of presenting the subject in ways in which it can be experienced through the perceptual structures of the human organism and unfolding suitable pathways allowing the assimilation of this experience, that is difficult to legislate for. The journey along this path has to be negotiated through a language and a sign system that is in concert with the domain of experience of the induction. Bruner puts this law of finding the "common language" of a domain of experience in the following terms:-

> "If learning or problem solving is proceeding in one mode, enactive, iconic or symbolic, corrective information can in principle only be applied to the form of representation and its economy". [2]

The inductory processes then are enabled by the activation on the one hand of a chain of interconnected images fluctuating between the internal and external referencing points of the human organism.

On the other hand these chain images generate coordinate
feeling categories in the context of their presentation
frame.   This explains why the teacher inducts the
symbolical frame of the lesson through the affective mode.
Malcolm Ross again elucidiates:-

> "Image-making is the means by
> which affective adaptation is
> achieved:....................
> If that inner world of feeling
> is indeed "a world", a place,
> then it is represented in the
> imagination of inner space
> "pictured" in the image of the
> outer or actual world in which
> sensuous experience occurs. Our
> sensuous perceptions of active
> stimuli coming from the objective
> environment are structured
> sensuously.   Our perceptions of
> our emotional responses is
> structured on the same principles -
> sensously: The language of
> perception furnishes the language
> of the feelings as the phenomena
> of perception furnish the phenomena
> of the imagination.   Thinking in
> images is thinking in feelings". [3]

Consequently the teacher's language and logic remain
centred and constant to the form she is using and
operating through.   Feelings and images are primary
responses when the inductory process is being negotiated
through the world of objects and external data and
consequently such feelings are structured and organized
through the perceptions.   Ideas belong to our
conceptual structures.   The concept of this lesson
was transformed into its percept equivalent or to put
it another way the product was broken down into its
processual structure.   To further elaborate the symbol
referent of map was broken down into its many parts
and later reconstructed to form another map; the map
emanating this time from the children's experience.

The dialectical relationship between the world

MAP

SITE

Stables   Water   Soil
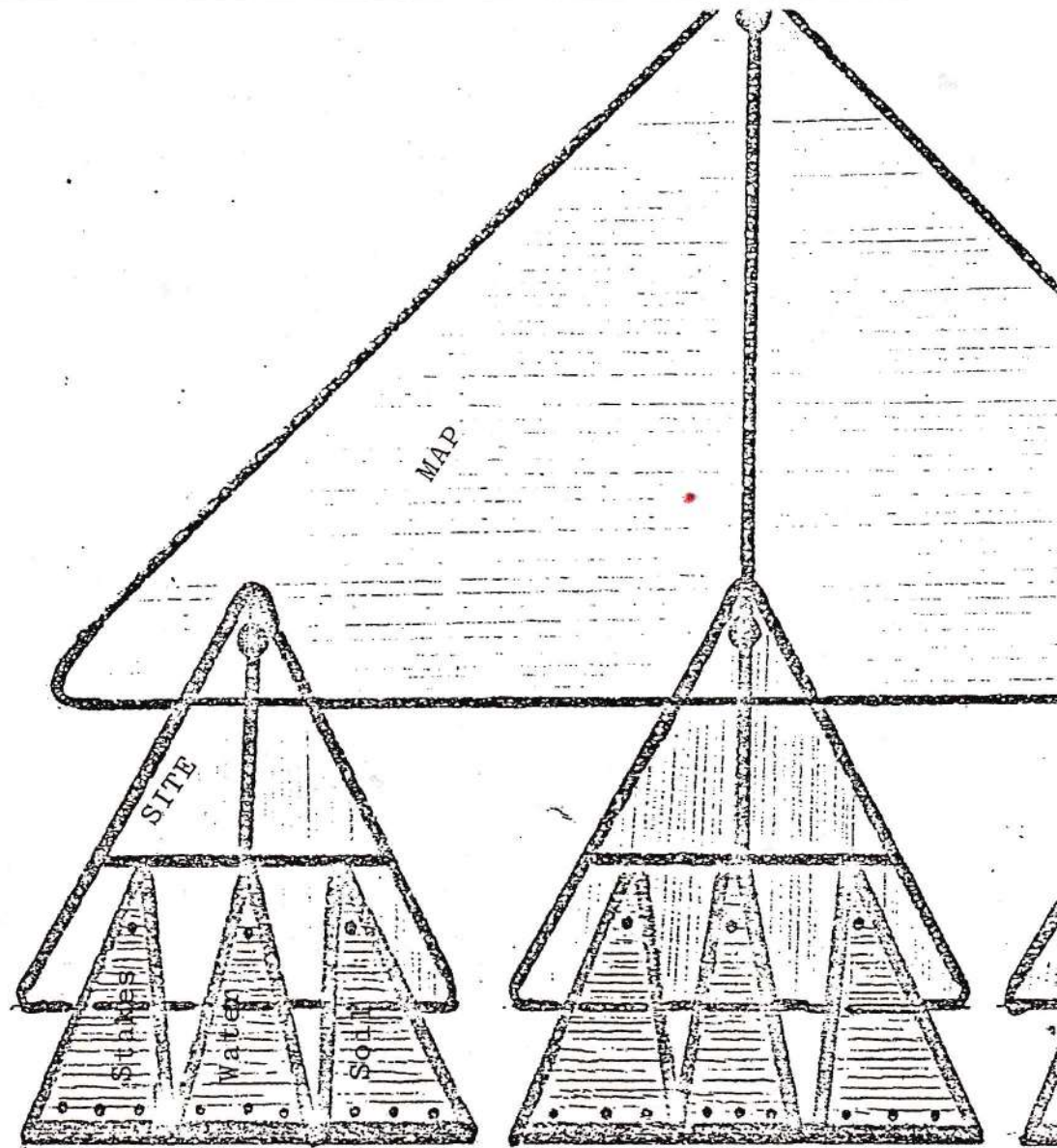
Breakdown of Concept. Illustration[4]

outside the human organism and that world within can operate only in a system which allows an interactionary structure to evolve.   A dialectic structure that allows the student to act upon the represented world and change this world by his interaction with it.   A dialectic structure that allows a reflective activity to occur in its schema.

*   *   *

NOTES AND REFERENCES

1. ROSS M. (1978) The Creative Arts p.37

2. BRUNER J.S.(1966) Towards a Theory of Instruction P.53

3. ROSS M. (1978) Op.cit., p.41.

4. PUGH D.S.(1971) Organization Theory

*   *   *

THE SECOND SEQUENCE

In this lesson the frame for learning was focused on problem solving tasks. These tasks were clearly represented on a sheet of paper. Here is a sample of one of many (See Appendix C):-

"Your task is to get the two
great Quern stones ready into
place - make the hollow for
the grain with flint and bronzen
knife- carve the runnels for
the grounded flour so that it may
spill out from the sides;
lay one great stone upon another
and see that all is safe.
If a stone of this size slipped
upon a food - may bring death
near

Drawing accompanied:-
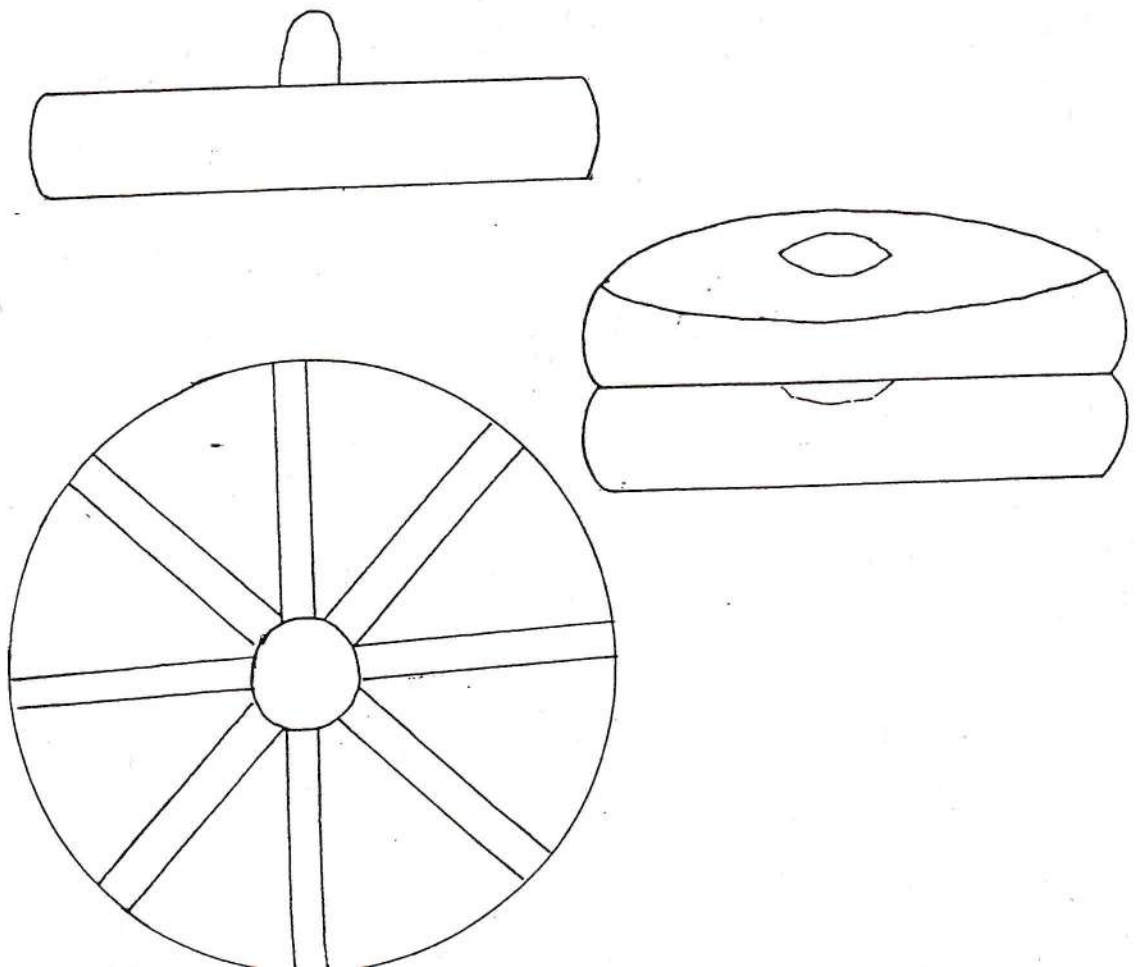
Drawings were placed under the text to assist the child in his immediate understanding of the problem. The form this task was to take was dependent upon the intermediary roles the stones would take. Their function was to give information through the task objective by way of clarifying the problem. This role function will become clear later. The teacher had set out in the room clearly marked files. These files were professional in their presentation and the content of these files form Appendix D. Each file was clearly labelled and displayed under the following headings:-

BRONZE AGE FILES
No. 1..........BUILDING
No. 2..........POWER OF PEOPLE (SYMBOLS)
No. 3..........FIELD TOOLS
No. 4..........FESTIVALS
No. 5..........DECORATION
No. 6..........AXES
No. 7..........CLOTH
No. 8..........KNIVES
No. 9..........VESSELS
No.10..........ENCLOSURES AND FIELDS
No.11..........NAMES OF THINGS USED AT THE TI
No.12..........EVIDENCE OF ACCURACY
No.13..........CORN

The function of this economically selected and clearly identified information was to serve the needs of the child in the context of the specific problems of the lesson.

The Form of the Lesson

Having organised groups of children to each Role Stone the children were told the reasoning behind the grouping which was - one half of the group were to be Bronze Age People and the remainder of the group to be modern people.

The modern people would be attempting to do the job that Bronze Age people had to do. The Moderns could relate their problem to the Stone who was part of the Bronze Age days and then the Stone could confer with the Ancients - the stone was the intermediary who would amplify the problem for both sides to enable them solve it.

The teacher now formalises this frame for the lesson to begin; having first established that they decide in their groups the Modern and Ancient representati

TEACHER: "Stones! Will you place on your left
             hand those of the Bronze Age and on
             your right those of the Computer Age...

             Could the Stones send the Modern
             people to my office, and would
             Stones and Ancients find a place
             for this work to begin.

The students representing the Bronze Age group stay with the Stones and the Moderns assemble around the teacher where she has displayed the files and task sheets. The teacher explains that she has taken the problems that the Bronze Age people knew how to solve and says that she has two such problems for each group. The students select any two of these task sheets and return to their respective groups. The students spend some time reading and talking upon the problem. The teacher reminds them:-

TEACHER: "Don't make the mistake of doing
             everything in your heads, start
             working in your hands and the
             problems will happen and you
             will see what you can do.

This could be taken as a maxim informing this system of teaching. The students furnish themselves with computer paper which is a constant source material necessary to this system catering for the active reflection in the capturing of images.

THERE ARE SOME
PAGES MISSING
AROUND 80's

The Stones amplify the problems and define them very clearly in a way that furnishes an approach to the solving of the problem. At this stage even though the Moderns are physically engaged upon the task the Ancients are drawn into this process by way of their expertise being elicited through the Stone. To illustrate - the teacher goes around the groups inputting information according to the nature of the given task of the group. To a group who are engaged upon solving the problem of designing and making a rodent free grain storer she approaches in role so:-

TEACHER: "Where do you want the grain put, we have threshed it all. Come and see, there is some very good grain this year but you know what will happen if we leave it on the ground - we'll have no barley bread. There must be some system for solving our problems. I suppose rodents would eat rushes. Go and ask the Stones and tell them what you intend to do".

To the group solving the Quern Stone problem:-

TEACHER: "Are these stones hard enough for the grain? How did you get them here? Have you checked whether the hammer you are using is correct for the one of their time?

The group involvement was centred around the various problem solving tasks; these were elaborated through talk and imaging on paper - the imaging on paper provided an extension to the talk of the group and proved a concrete holding device which furthered the elaborative process of the talk, these drawings also located the children socially.

This talk through image of problem solving task also served to delay cognition by way of its extending development. The actual process of the

problem task was unfolding the three dimensional
nature of the object, that is, the actual task
it was used for- the living conditions surrounding
its use - so that the object in itself created its
world, its people and their living habits. Through
the function of the object the mind's eye sees its
world.

The teacher to group:

TEACHER: "Could you all in your groups
             concentrate on one particular
             aspect of the problem. Could
             both the old and the new people
             work on it together and when
             the work is finished, the Stone
             will tell us about it.

Students are now involved in depicting the working
of the object and expressing how it relates to the
earth around it.

TEACHER: (To grouping whose task it is to
             make the basket):-

             "There will be no more rushes 'till
             the spring!

This is an evocative statement addressed to this
group - the implication being that they must take
care with the rushes in the making of their basket.
This statement also served through the metaphor
of the drama - a reminder to pay attention to
the detail of the work in hand. The children in
this particular group are having some difficulty
in sustaining their sense of belief in the basket
making so the teacher reads this signal as a need
for further inputting of teaching. She addresses
them again through the metaphor:-

TEACHER: "Now there is proof of the size and
             nature of these baskets. (She goes
             to the photographs in a reference book
             which is placed on the table with
             the information files - the seeking out
             of this information is also modelled).

She continues with this group:-

TEACHER: "Now I sense in this group that some
           of you find it difficult to stay with
           the job - here (this Bronze Age Village)
           everybody has to work.   (She helps
           with the making of the basket talking
           her actions).

           I have this in my fingers, I bend it
           round here, push it through here and
           pass it to you.   Let us carry on
           until this basket gets bigger than
           us.

Minute and detailed attention grow through the hand
movement of weaving together.

TEACHER: "My fingers ache".

This involvement to task was created whereby the activity
of the task became bigger than the children's
involvements with each other.   It is in this way
that the task in this system is the enabling tool which
provides the maturation process.   The intermediary
object task also protects the child from direct
confrontation with his own or other's feelings
of exposed frustrations.   The task deflects
and protects the child from debilitating exposure
of inadequacies.

To Group:

TEACHER: "People, I'm going to say"hold" -
           and no matter what you are doing
           hold and the Stones will talk the
           work for us and we will want to
           know what problems they have
           worked out.

     The teacher is inducting the class now into
a ritualistic mould whereby their involvement in the
task will be amplified and upgraded in a formalised
language.   This distancing and elevating device also
served as an amplification communicating all the work
to all the group.   The fact that the Stones are
articulating the work also is a device delaying the
pressure from the children articulating themselves -
this will be developed at a future point in this system
when the children are ready for it but in the meantime

they are being inducted towards as many combinations
as possible in the realm of task involvement, so that
they can deepen their experience at as many levels as
possible.

TEACHER: "The Stones will talk and the people
             will show the nature of the work.

             Let the Querns be carved and
             the problem solved.

This group depict the work involved in the problem
and resolution of the problem surrounding their task.
As they work , their work is amplified at intermittent
links in celebratory tones by the language of the Stone.

STONE: "The two great stones are being
             brought from the river bank...
             the central hole is being carved.

As this group carry on with their depiction the teacher
speaks quietly to the remainder of the onlooking group:-

TEACHER: "As you watch the work look at it for
             truthfulness -
             Do the hands know the tools?

This is again a reminder through the metaphor to watch
the work discriminately - she is also attempting to
frame their looking.

             In this system it must be stated at this point
there is no acting in an emotive way, but when the
ritualistic from is used it is used to honour the
collective work endeavours of the group and formalised
in such a way that each section of the group can
experience the work of the other sections. The teacher's
emphasis on "truthfulness" to the depiction of the work
is sufficient emphasis for the depiction to become
meaningful.   The Stone continues:-

STONE: "There is the problem of moving the top
             stone over the bottom stone.....
             and to solve it a tree has been felled....
             and now handles are being placed on
             the top stone.

TEACHER: "May we watch you fit the wood to
             the stone?

The teacher extends the communication network to the group:—

TEACHER: "If there are any questions you would like the answers to you can ask the workers about the querns that will grind the grain.

She models a question to the Quern group.

TEACHER: "How do you know this will work? Are there any of you who have any ideas about this powder when it comes through the runnel?

Students offer ideas but are indistinct...

TEACHER: "There has been a suggestion that you put the stones in a great clay dish that is bigger than the stones.

Another child suggests here that the stones might break the dish.

TEACHER: "We can't make the stones less heavy as the weight of the stones is what makes the grain powdered.

The teacher now turns to another group:—

STONE: "Preparation is going on for a storeage place for the flour.. A pit has been dug making sure all the stones have been removed and that there are no tree roots in it, so that no animals will get into the flour. Over here, one man is collecting clay with which to line the pit — after the clay has been collected it will be moulded round the pit and left to dry.

TEACHER: "Why do they need the clay?

STONE: "They need the clay so that the dampness will not hit in from the earth to the flour.

"Here we have two who are preparing a goatskin to put on top of the pit when the flour is in it.

This particular group as is evident are engaged upon different tasks within the one common problem solving task.

TEACHER: "I would like to ask the woman how they will fasten the skin and what it is you use to scrape the skin.

The student answers — indistinct.

The Stone continues:-

STONE: "When the skin is cured and dried
           it will be stretched over the top
           of the pit where the flour is.....

           We have one here who is preparing
           the sharp stones to go around the
           sides to hold the skins down.
           On top of the skin will be placed
           a large stone so that no rodents
           may claw through the skin in order
           to get to the goodness of the flour.

The teacher asksgroup if there are any questions:-

STUDENT: "What is the flour made of?

TEACHER: "Clarifies question and feeds potential
           for expertise:-

           "Is it made of barley or wheat?

STUDENT: "Barley flour.

Teacher moves to next group.

TEACHER: "May we see the work of the basket makers?

STONE: "These people are making a large basket
           to hold the cloth......
           they are nearly finished now...
           together they hold the supports
           of the basket and pass the reed
           one to the other each bending it
           round her own side of the basket...
           Every time a new reed is used it
           has to be woven into the reed
           before it, so that it can join
           the main line of reeds...
           it is slow work..

TEACHER: "And they are very patient.

Teacher is affirming this particular group for their work
as they had some difficulty in the beginning.

She asks them a question:-

TEACHER: "How will you know how to fasten
           it off? Have you a system when
           you reach the top?

The students reply - indistinct

Teacher asks class group if there are any further questions.

STUDENT: "What is the basket built to hold?

STUDENT: "Cloth.

Teacher amplifies and extends:-

TEACHER: "In the winter they must weave much
           cloth for the summer.

The teacher is also extending the frame of the task
to its functional context which is the social processes
in which it is placed.

STUDENT: "Where do they get the reeds from?

STUDENT: "The river bed.

The next group have worked out a very large
drawing on the floor representing plans for the
building of a house.   They had been discussing
problems of how deep the stakes would be thrust
into the ground, the shape of the house.

TEACHER: "How would you put on a roof?

A discussion follows between the students and
the teacher but it is indistinct.

TEACHER: "Is it known why you are building
              one great house?

STUDENT 1:   "So that we can share everything.

TEACHER: "Is there no special place for chiefs?

STUDENT 2:   "No, we are all equal in this house.

TEACHER: "Does it mean you all share the same
              fire?

The outcome of this interchange through the
experience of the task and rooted in the task
is the significant foreshadowing of the branching
domains that are being made manifest, such as ,
the cultural and social habits of these people.

Teacher now turns to the group designing a fire:-

STONE: "These people are working with
              fire they are working very hard
              with the problem of designing
              the fire hot enough to melt the
              metals and the tin and copper
              they carried from the rocks...
              In building the fire they had
              many problems in working out
              ways in which they would not
              burn themselves on the bowl
              containing the molten metals.

TEACHER: "Do you have tools to handle the
              hot bowl of molten metal?

STUDENT: "We are deciding upon the tool.

TEACHER: (To group looking)
              "Does anybody know of any tools
              in the village that might assist
              with this? . If you know of such
              a tool it may help to speed-up
              the process and then we can have
              bronze knives.

Teacher here is through the context of the metaphor drawing and knitting the group work ethos towards becoming an organic social effort. She is also foreshadowing the next stage of the lesson, which the children are in fact on the edge of already. It would appear that the structuring design must implant a spiralling developmental process so that each stage can be experienced before actually being focused upon. She is also using this practical example of the "tool" to demonstrate (again taking her cue from the moment in focus) the evolutionary process at work. She reads each moment of the evolving process for its future possibility and develops her input of learning from it.

The students at this point ask many questions of this group but mostly indistinct:-

STUDENT 1: "How do you know when stone has copper in it?

STUDENT: "We crack it down the middle.

TEACHER: "How do you know the due proportion of tin and copper?

I believe the exact proportion has been found.

This moment the teacher grasps;firstly to upgrade the student's question and to resonate it to the group and secondly;to lead the children towards the information in the files displayed, such information now having relevance to this context.

TEACHER: "I'm interested in why this fire has been built differently from ordinary fires?

In this sequence of questioning there are many rhetorical questions which are designed at this stage to provide the child with the motivation for discovering his own answers. The dialectic is now operating within his terms of reference and he has at this stage been endowed with sufficient potential for power to exercise his expertise. The previous sequences has input the foundation.

The teacher turns to another group:-

TEACHER: "May we see the work of this group?
              May we check for truth?

The students here are depicting their work and
the Stone is articulating through their depiction:-

STONE: "We have come together to solve
              a problem for the whole village...
              It was decided to build a pit
              in which to store the corn....
              They have taken a long time
              walking around the village to
              seek out the best spot...
              They have chosen this one which
              is in the highest ground of the
              village and because its high, its dry...
              They had to choose their tools
              carefully in order to chip away
              at the dry rock....

              This man has chosen his own
              tool.....a lot of thought
              went into the choosing of
              the tool.....

              The pit has to be very deep in
              order to contain the corn of the
              village....

              They are now at the beginning
              process of clearing the spot
              for the pit.

TEACHER: "Could you tell us of the tools
              you have chosen to use?

STUDENT: "Answers in detail but indistinct.

TEACHER: "Do you know the animals that
              these shoulder blades and antlers
              have come from? Or did you have
              to dig them out of the ground
              from past times;.......

              Tell us of the tools you discarded?

              How will you make certain when
              you place the grain in the great
              pit and the women come to collect
              it that the rodents haven't eaten
              it?

              Is there much wood around your
              village?

              You had a good winter?......

These questions were not delivered as written but are
recorded here to highlight a feature of this process -
that of being an audience to the child's expertise;
which expertise is elicited by direct question seeking
information - it is a feature of this system only when
sufficient expertise has been input to place the child
in the secure situation where he is fimly located at
a point within the working frame of his expertise,
when he is in a position to either give an answer drawn
from his own store of commonsense knowledge or he will
be in a position which enables him to seek the information.
The process gradually builds around the expertise of the
student a framework from within which his knowledge will
spiral organically.   The rationale being that the
concept is overlaid on the experience of the student and
hierarchical structures are built into the framework
enabling him to develop cognitively toward the concept
formation goal.   The maturation pattern is not necessarily
a linear one, its growth can be circular and can have
a pendulum pattern of a forward backward course.

The development of the symbolic frame of the
lesson, the outer walls containing the inner coherence
of the lesson - does not develop either linearly as
the"story line" motif, but serves the function of sustaining
the journey towards understanding via whatever path is
deemed necessary.   The journey is negotiated symbolically
in relation to the learning needs of the students at the
time of the lesson.

*   *   *

THE THIRD SEQUENCE:
THE COMING OF FIRE:

Having established through the tasks of the
previous lesson an extension into the work life surrounding
these tools, the objective for this lesson is now to
focus on the life of the community through the tasks again.
This lesson will extend outwards from task to work
to behaviour surrounding the group's involvement to their
tasks.   It will take the form of offering the group an
opportunity for having a big crisis.

There are several suggestions in response to
this and she writes these on the board - they are:-
> -Shortage of water
>
> -Too much water   (flood)
>
> -Animals destroying crops
> -Fire

She defines what she means by a crisis.   She
demonstrates the growth of a crisis from a small beginning.
She uses a child as the teaching symbol (she selects a
child who continually offers himself for attention).   She
places him on a chair and asks him to raise his right hand.
He now becomes the teaching object in the realm of the
three dimensional focus through which she will mediate
and negotiate her lesson.

She chalks a bruise on his right hand and then
asks how he got it.   This question is delivered to the
group.   The students offer several suggestions, most
of them arising from the work of the tasks.   She picks
up the many suggestions relating to the fire and develops
a theme from their suggestions:-

TEACHER: "Is he the man who melts the
              copper and tin for the bronze?.....

              And through his sore hand he
              loses the bronze that is
              needed by the community?

              Why is it needed?

The notion of trading is suggested by the students:-

TEACHER: "Why should we trade?...
would there be anything that
we would really need that we
can't get?

The teacher in this short sequence is inducting towards social patterns of group involvements, the nature of coping with crisis; how social order is arrived at and taught and the route she is taking is through a crisis where the whole group behaviour will be engaged. Having demonstrated through the medium of the child the social history of a crisis she invites them to choose which crisis they want. She asks them if they want her help in making their decision; eventually they decide to make it on their own and begin to negotiate among themselves.

TEACHER: "I'll sit down and notice how this
community takes important decisions.

This is a deliberate gesture on the teacher's part because it affords her the opportunity to observe the children in the task (which has caught them off-guard) in the process of decision making.

She reminds them:-

TEACHER: "What you are doing now will
support you through the crisis.

The children are discussing their various choices and no decision is arrived at. There is indecisiveness and some personality clashing and one boy observing this clash decides that "Personality Crisis" might be another topic for a crisis to be added to those on the blackboard. The teacher uses this indecisiveness of the group, the lack of skills in dealing with a group decision as a teaching point:-

TEACHER: "This is what Parliaments are
about, so if there are any
waiters about waiting for
someone else to speak up for them,
get off that line. Let's see
how you organise....

One child takes it upon himself to organise his peers into a voting system by a show of hands. He marks off the vote against the particular crisis and the "Fire" wins. The teacher points out that there is one important question to be sorted out before they begin. She offers them a choice as to which way they could do the fire:-

TEACHER: "If you go forward with your work and you don't know what's going to happen - you just have to wait and believe in it truthfully - every second until the fire eventually happens. Or the other way is that we could do something today that would remind us of a fire in our past.....

Which do you want, one is harder than the other.

Choose for yourselves.

She gives them again the further opportunity to organise themselves towards a group decision, a skill not common to this age group, a social skill that has to be taught by her for successful group work to develop, so she uses this opportunity to induct towards the skill.

In the peer group negotiations there are strong disagreements. She relates this behaviour to that of the real world communities whereby in the political structures members of a community sit back and criticise political leaders' decisions while they themselves remain aloof. She reinforces this point by referring to a current and much publicised local election which took place the day before this lesson and which the children were well aware of as their school was closed for the election. She pointed to the fact that in her area only a handful of people voted .

Again a child steps forth to organize a further voting system, the system this time is different to the previous one of a show of hands - this boy asks the group to show their preferences by moving to a certain side of the room.

The decision is made by the group the teacher echoes this:-

TEACHER: "You want the fire to happen and you
didn't notice it starting...
Do you want me to do it or someone
in the group?...

Now then there has to be time for the
work of the village to become truthful
and I need time so that I can move
around the village to find a way
of terror.   As soon as you are
truthful I'll find the terror.....
If I see no truth I can't find the
terror because it'll be only pretending,
and somewhere in the world there is a
fire really happening, and somebody
will burn to death today.

When this system is focused specifically on human behaviour
the focus is taken away from behaviour as an individual
phenomenon - the dignity of the group ethos is the aspirant
ordering concept and following this system of behaviour
is the dignity of the universal ethos, that is the
behaviour of humankind.   Thus the focus point of "fire"
is expanded in its conceptual referent from inner emotional
understanding to the bridging continuum of its hierarchical
concept.   This is the moral code informing the ethical
nature of human behaviour in this system.   The individual
is subject to the group ethos.   The group expression is
part of the social system and this group system is yet
part of the part of the bigger one; that of the universal
system of humankind - the moral code is structured then
downwards from the top.   This is but a vulgar representation
of this moral philosophy informing this system.

She tests if they need a symbol to establish the village
by asking if they want the stones in position.

TEACHER: "You know what you were doing this
morning, the basket making, the pit
digging.......
Start the work truthfully.

To a section of the group who are excited by the coming fire:

TEACHER: "Are you pretending this or are you
working at the job?

I want to get some of those
big stones around the fire
and then I want to throw
them in the pit to cook the meat.

TEACHER: "Can you pick a few stones?

To another student:-

    Do you know where the Bronze knife is?

    I want the fire lighting can you
    build it up?

    Can you women spare me a moment
    and get some wood to get this fire
    going?   I want big wood, I want
    to get this fire really hot -
    I have to get the meat cooked.
    I want more firewood - I have
    to get this pot boiling.

The teacher's state of mind at this moment was metaphorically
"to get the pot boiling".   She got the whole group involved
in the central task of bringing firewood and placing it
on the fire.   She stops the proceedings and comes out of
role.   In this system story line is not primary.

TEACHER: "Can you stop a minute?

When a new transitionary stage is being negotiated,
that is a new learning skill, in this case a behavioural
skill, the teacher stops and starts the symbolic level
as many times as is necessary to achieve the required
meaning.

She explains why they are getting wood to keep the fire hot,
to keep the stones hot and to boil the water with the meat
in it. (She explains the culture surrounding the cooking
of food)...The stones have to be taken out and placed in
the skin that has the water in it, she continues in role:-

TEACHER: "It is a pretty tricky job!

    As you bring the fire, build it well,
    the better it is built the more
    heat it will hold.

    Let everyone among you remember
    that to-night's feast depends
    upon this fire being well made,
    see to it...fetch the wood...

    Lay the boughs one upon the other
    so that the heat is caught.

She stops the process for the second time.

With the coming and going of wood bearers the rhythm is
beginning to evoke a game playing exercise among some
sections of the group - she instils quality and purpose
by aligning the action again to its universal significance:-

TEACHER: "There is no way out of a good drama,
              because there is no way out of what
              bothers people and if you want a
              fire you have to work for it because
              we are not in the invention business
              we are in the understanding business.

              Come on, this fire is nearly out,
              help those women get that bough
              up here.

She direct where the wood goes:-

TEACHER: "Now you can go back to your work
              set yourself about your task
              and I will look to the meat cooking.

To the students at Quern stones:-

TEACHER: "Have you the flour ground for the
              bread to night -
              we'll start to knead it so that
              we will have the cake ready to
              put in when the fire is built.

She is extending the work of the Quern into significance.
This significance is the interrelatedness of everybody's
activities towards the collective group ethos.   Each
activity is integrated into the life of the group, each
activity interrelates into a larger system whose extensions
are infinite.   She begins to depict the carrying of the
stones and enlists the help of one of the students, they
place the stones in the pit.

The group working on the basket are very near the fire
and the teacher points out that they are very near the
fire.

To Group:-

TEACHER: "People the women have completed the
              large basket taller than themselves,
              it is a very fine basket.

She comes out of the process for the third time

in order to negotiate the next state of this lesson:-

TEACHER: "Now I think from that basket we
could get our terrible fire,
now what do you think?

She returns to role.

"They've brought the basket here
into the centre in order to dry
it so that all the dampness can
dry out of it; would you trust
me then to let that be the centre
of this problem for us?

Then you can now settle into
your work feeling that the
smell of the meat cooking is
a nice thought....
so we'll settle now into some
calmness.

She goes back to pushing stones with imaginary sticks
into the pit and continues this process of pushing the
stones into the pit with another student. She
negotiates with this student:-

TEACHER: "Now do you think you can be the
one that will make me push the
stone too far from the pit?

She further negotiates this manoeuvre:-

"Oh! is it in the water?
it must be in the water.

She stops the process for the fourth time to further
negotiate:-

TEACHER: "People can I tell you the state of
the fire....
We've lost a hot stone
now I'm sure it went into
the pit there.
This young woman whose eyes
are sharper than mine is
a bit uneasy.

This is a good example of the two worlds imperceptibly
blending that is the real and the symbolic, both would
appear to be juxtaposed in the above passage. The
teacher continues in this frame:-

TEACHER: "Now from now on we can't do
very much,
she's worried (other student) and I'm not
because to me it's reasonable that if I'm
rolling a stone it can only go into the pit.

TEACHER: "From now on the fire can only
            happen to us.....
            We told you how it might be beginning
            From the newly woven basket there.....

            The fire has to happen to us
            I can't deal with it now
            We all have to be equally
            responsible for the truthfulness -
            And we are inside a wooden
            building with a thatched roof
            ....
            and....a hot stone missing....

            On you go, get on with the day......

She is giving more responsibility to the group having
established their involvement and commitment at a deeper
level to their task and will progressively establish this
commitment further from task to group activity - so that
the impending chaos of the fire will be filtered through
task object and sense of responsibility for group rather
than individual unleashed reactions with no framing
consequences.

She moves to the Quern:-

TEACHER: "Now let's see how this Quern
            works.
            Do you need two people to move it?

To group in general:-

TEACHER: "See the Quern is working, come and see...
            Fetch a bowl to catch the flour,
            now it will be quicker than the rolling.

She is elevating the activity again towards the group
ethos in an attempt to integrate into significance each
task.

She comes out of the process for the fifth time:-

TEACHER: "Now hold it here:- (She negotiates):-

            This is the time when we are
            in our greatest danger isn't it?

            Do you think we are ready to let
            the fire happen, well be very careful,
            don't do what people often do and
            start screaming.

She is protecting children against a stereotypical
reaction and proceeds to further induct by modelling
a beginning stage of awareness of fire.

TEACHER: "All that happened to me is this
      lady came over and said to me -
      "I smell something burning" -
      So I'm thinking - Yes, it is a
      bit funny but they have done a
      lot of metal work over there -
      (she points to group involved in
      smelting the metal)....
      maybe that's why!

She further negotiates:-

TEACHER: "Now let's suppose that there is
      a small smell of burning,
      can we all agree?

She elicits consensus commitment:-

TEACHER: "And we'll let these Querns go on
      turning (she refers to the two
      students symbolically operating
      the Quern) you're tired, so
      we'll let some other men take
      over to give time - but I don't
      know what the next time will be.

She is offering the students responsibility but
models a possibility at the same time:-

TEACHER: "Will something fall?
      Will we see smoke?

She whispers:-

      "Nobody knows......
      so if you see any smoke go over
      there, don't start a row about it,
      and don't start until you're sure
      about it.

She has distanced the notion of chaotic fire - each
distancing device she uses is an aperture through which
she inputs and draws into significance the life of the
community at work. She continues:-

TEACHER: "Now are there any more hot stones?
      Put more fire on.

Some students at this point say that the basket is on fire
the teacher picks this up and resonates to group:-

TEACHER: "Careful, careful, the basket.
      Now hold it there.

She stops the process for the sixth time to further
negotiate.

She uses a controlling device:-

TEACHER: "Now from where you stand or sit,
             see where there is any kind of
             smoking coming from the basket,
             everyone will see it differently
             because we are all in different
             places - I am still not convinced
             that thing is on fire, I think
             it is only steaming - but there is
             a woman over there who says it
             is on fire.

Some students surmise that the stone must have
hit it.

TEACHER: "Can you see around that side of it?
A student asks if he can bring the basket out into
the air.

TEACHER: "If you bring it outside it will
             burst into flames...
             ....if the thatch catches...?

She speculates what would happen and what
would happen to the house if the fire burst forth.

         *   *   *

BEHAVIOUR FRAME ANALYSIS

The fire that didn't happen was the symbolic tension
line that enabled this sequence to focus on behaviour.
The metaphor enabling this was deliberately
selected, a metaphor that possessed the potential
to act upon the group and the potential to evoke
a response outside of their daily range of common
responses.   They are inducted towards such a response
and protected into such a response or at least the
domain of experience where the causal factor might
give rise to a crisis response.   The inductory
strategy is the employment of a progressive series
of negotiatory steps which in fact serve to remove
and distance the group from the object of the crisis.
The process that this strategy enabled was that the
group were inducted into a position where responsibility
was engendered by direct focusing on task and
progressed to developing an extended focus relating
the work of the task to the life of the community.
This focusing had the consequent effect of deflecting
any potential individual stereotypical reactions and
causing an outwards response to the work of their task
in the group context.   The group commonality is the
holding power in this sense.   This commonality of
endeavour was negotiated at different points; firstly
by celebrating the completion of the basket and
secondly the completion of the Querns.   The impending
crisis proved a positive development to the lesson
in that it enabled the community life to emerge within
the group.

At the beginning stages the teacher actually
used the opportunity presented by the choosing of a
crisis as a teaching point.   She explored a system
of behaviour in the context of group dynamics.

This feature of behaviour and most features of behaviour are socially acquired either positively or negatively and need to be further taught in a social context.   In our schools this feature of development is mostly neglected.   Clara Nicholson makes this point very clearly and unequivocally when she points out that:-

> "As individuals learn only
> what is presented to them,
> the school system is responsible,
> as the major transmitter of
> sanctioned social behaviour
> to select and present the kind
> of behaviour needed for
> adaptation to a changing
> cultural milieu. [1]

Strangely enough our educational system does not seem to be aware of the significance of this fact in the same way that sociologists would seem to be.   Brian Davies in his book "Social Control and Education" (1976) quotes Everett here are the thoughts of both:-

> "One of the few things that
> sociologists of various
> persuasions seem to agree
> about in general is the
> 'importance' of education.
> It is quite interesting and
> instructive that Everett,
> writing in the famous first
> edition of the Encyclopaedia
> of the Social Sciences 1937,
> should say that 'Education is
> perhaps the most useful tool
> of social control but it works
> for militarists and class
> conscious snobs as well as for
> humanitarians and men of
> vision"(Everett, 1937:347). [2]

Davies develops this point further by stating that in the process of social control, defined in the wider sense of any influence exerted by society upon the individual, whether conscious or unconscious, she described education according to Davies as potentially more useful than families or firms or other groups.   In a world of rapid technical and economic changes which had led to the widespread breakdown of "individualist assumptions", education is seen as the one public experience through which all must pass."

The levels at work in this sequence were explored and focused at differing layers of significance and meaning, each layer and level containing the other. That is to say that all endeavour operating was subservient to the group system's ethos. This group ethos in this instance was the functioning of the tasks on one level and on another level the integration of these tasks. It could be said that the group system was the holding and controlling factor of behaviour. The key ideas of the two anthropologists B. Malinowski and A.R. Radcliffe-Brown were focused on the system as having primary importance; they both maintained that all unity of behaviour of the system are secondary and determined by the system.

*   *   *

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                               p. 14

*   *   *

A PRACTICAL THEORY OF TEACHING

In this conclusory section a brief attempt will be made to draw a skeletal theory of teaching from the preceding practice. The preceding practical accounts of the unfolding stages of a "Mantle of the Expert" system of teaching represent the initial stages at the beginning of a new area of study. These stages form the structure of this pedagogy in its embryonic cycle and thus represent a paradigm model for a discussion on practical theory. As this project progresses the nature of the material will become more complex but the interactive dynamics will remain constant as will the holding infrastructures.

What practical theories of teaching can be assumed from a "Mantle of the Expert" practice?...... Such a pedagogy is a many roomed mansion admitting entry to innumerable theories of its practices but hereunder the concluding section will but touch upon the following theories:-

A theory of communication.

A theory of representation of knowledge.

A theory of implementing the social-Infrastructures of knowledge.

A THEORY OF COMMUNICATION

It is perhaps, foolhardy to attempt a theory of communication as it could be said that the very act of living is a form of communication. It is, however, nearer to the subject in hand to state that the act of teaching is a dynamic act and consequently constitutes a definite act of communication. It can be further assumed that the method of communication forming any teaching system dictates the nature of learning in such a system. Attention has already been focused on the direct transmission of knowledge where the group are communicated to as one subservient collective participant. Edwards shows concern for a communication system that perpetuates such a one sided transmission of world views:-

> "Basic rules for experiencing,
> interpreting and telling about
> the world are learned in many
> contexts. Those learned and
> acted on in classrooms may be
> critical because the practice
> they generate are repeated so
> often and questioned so rarely". [1]

A communication system as already pointed out that treats the human as a passive taker of knowledge rather than an active maker of same is degrading to human dignity and destructive to a social system. M.A.K. Halliday when discussing the concept of "communication" pointed out:-

> ".....If we ask any form of
> communication the simple
> question - what is being communicated?
> ...the answer is...
> information from the social system.
> The exchanges which are being
> communicated constitute the social system". [2]

The social system is represented in "Mantle of the Expert" in such a way that the power of communication is visited upon the group. The teacher does not assume the role of the main communicant in this system, in fact this traditional role is relinquished in favour of becoming a member of the group and sharing in the group construction of knowledge. The child now becomes the expert and the teacher relinquishes the traditional role of giver of information. The teacher in this system does not give direct information, but instead enables a strategy and a structure whereby a discovery of relevant information is possible. The role of teacher as an enabling member of the group who endows expertise unto the group and consequently the responsibility inherent in the work of such expertise alters the communication network of the class.

The position of the teacher as an enabler from within the group is perhaps the cornerstone from which an open ended communicative network evolves. It is this switch which separates the role of the teacher from a giver of knowledge to an enabler of knowledge. It is endemic to the dialectical process of this system that the child is inside the structure, taking an active part in the process. This position in the process is seminal to the generative dynamics of this pedagogy and is its central raison d'etre, it is a position that is irreversible and no amount of teaching technology will replace this relationship in the teaching environment, it is the very edifice upon which this pedagogy evolves. Douglas Barnes speaks to the heart of this generative relationship thus:-

> "No amount of central curriculum
> planning, new materials from
> Schools Council projects or
> exhortations to teachers - will
> make significant changes in what
> is learnt, if school communication
> systems remain unchanged".........
> ....
> As the form of communication
> changes so will the form of
> what is learnt"[3].

Barnes maintains that when we look at the communication
system of a school or classroom we can ask - what part
do   learners play in the formulation of knowledge?
Where does speech come in this?   As was portrayed in the
section of reading the application forms, when expertise
had been endowed and an active part in the communicative
network was enabled by the task of coding and classifying
the information from the application forms.   The dynamics
enabling the speech was the convention used in the drama
of the Committee.   This dramatic framework yielded a
structure whereby the children in their role as "Experts"
were examining the application forms in an attempt to
select a group of people for a Bronze Age Project.   This
section has already been dealt with in that it allowed a
collaborative social relationship in which students and
teacher alike as a member of the group made frequent use
of one another's contributions by extending and modifying
them.   Barnes again speaks of language strategies employed:-

> "The more a learner controls his
> own language strategies and the
> more he is enabled to think aloud
> the more he can take responsibility
> for formulating explanatory
> hypotheses and evaluating them.
> This is only possible if students
> are placed in social contexts that
> support it".

The social context supporting the communication environment
is, of course, of paramount importance to this system in that
it allows the group to operate through a symbolic social
system in which they have power to interact with and change
this system if required.   It is at the symbolic level that
the chain of events contributing to the existence of the
social system is sustained.   This symbolic world is negotiated
by the teacher through the affective mode of communication
and it is the unfolding of the symbolic world that gives
credibility to the tasks which provide the curriculum in
this system.

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PHYL HERBERT
FROM HER THESIS
ON "MANTLE OF THE EXPERT"
A SYSTEM OF DRAMA INVENTED BY DOROTHY HEATHCOTE
OF NEWCASTLE UPON TYNE UNIVERSITY
ENGLAND.

A THEORY OF REPRESENTING KNOWLEDGE

Bruner believes that the pedagogic problem lies in the areas of how to present knowledge; how to sequence it and how to embody it in a form appropriate to young learners. In the example used in this study there is a refined process adhered to for the representation of knowledge. Knowledge in this system is broken down to its relevant processes and structured in a form suitable to the assimilation of the area of knowledge presented. The structure, strategy and sequencing of knowledge is somewhat akin to that described by Bruner. Bruner believes that the child's appraisal system and its generative power develop dialectically with the teacher's structuring of knowledge. The structuring and representation of knowledge is informed by the hierarchical principles inherent in the conceptual order of concept formation. The conceptual field to be taught is disseminated into its perceptual constituent parts. In this light the "Expertise" being endowed can be viewed as the conceptual framework of the curriculum and the tasks emanating from the problems posed to the "Experts" can be seen as the representation of the perceptual field of the relevant concept. The expertise or conceptual framework is presented initially as if understood by the group and consequently further disseminated into a form for assimilation by the group. Initially the expertise or concept is overlaid on the active experience and knowledge of the group and the ensuing structuring and sequencing is framed by tasks from within which the knowledge of the group will spiral organically and hierarchically towards concept formation. Bruner believes that there is a parallel between the way a subject matter is organized and the way people organize knowledge in their minds.

He believes that each discipline has a structure of concepts that are organized hierarchically. That is, at the top of each discipline are a number of very broad concepts that include or subsume the inclusive concepts at lower stages or organization. Bruner conceptualizes a discipline as levels of these hierarchically organized concepts that begin with perceptual data at the bottom and proceed through increasing levels of abstraction to the most abstract concept at the top. Thus we may imagine a discipline as being composed of a pyramid of concepts all linked together with the most concrete concepts at the bottom and more abstract concepts at the top. Bruner described the mind as an information processing and information storing system that is analagous to the conceptual structure of an academic discipline. That is, it is an hierarchically organized set of ideas that provide anchors for new information and ideas as these are received and that serve as a storehouse for them. These new ideas can be usefully learned and retained only to the extent that they can be related to already available concepts or propositions that provide ideational anchors. Although a new set of ideas can be incorporated into an existing cognitive structure and in fact must be incorporated for learning to persist, if the new material conflicts too strongly with the existing cognitive structure or is so unrelated that no linkage is provided the information or ideas may not be incorporated or retained. To prevent this from occurring the teacher must organize a sequence of knowledge and present it in such a way that the ideational anchors are provided. This hierarchical system is activated as a whole and this whole or human intellect fluctuates between three systems of processing information. Bruner's much quoted stages of cognitive growth are embraced and embedded in the representation of knowledge here:-

> "Cognitive growth, then, is in a
> major way from the outside in as
> well as from the inside out.
> It is fruitful to distinguish
> three systems for processing
> information by which human
> beings construct models of
> their world................... 1

"-Through acquisition
-Through imagery
-Through language.

He calls these three modes of representation, enactive,
representation, iconic representation and symbolic
representation. He maintains that their appearance
in the life of the child is in that order, each depending
upon the previous one for its development, yet all of them
remaining more or less intact throughout life. Bruner
maintains that for an integrative understanding of the
environment a symbolical system is needed:-

> "Let me urge that such a system
> of processing environmental events
> depends upon the translation of
> experience into symbolic form.
> Such a translation is necessary
> in order for there to be the kind
> of remoteness of reference as is
> required when one deals with
> indirect information. To transcend
> the immediately perceptual, to get
> beyond what is vividly present to
> a more extended model of the
> environment the child needs a system
> that permits him to deal with the
> non-present......................
> It seems to me that growth depends
> upon the emergence of two forms of
> competence. Children as they grow
> must acquire ways of representing
> the recurrent regularities, in their
> environment and they must transcend
> the momentary by developing ways of
> linking past to present to future 2
> representation and integration".

The child must have a "no penalty zone" for learning
about the world around him and placing this world
around him symbolically as in "Mantle of the Expert"
provides an organic matrix from which all real knowledge
can be presented and represented.

Action, image and word are the three interacting modes of representing the environment in "Mantle of the Expert" and each mode provides a form in which the child can annotate his construction of the environment. Each form for representation has a reflective agency where the child knows what he knows.

In this pedagogy the form is found for the child to develop a notation for describing his construction and when assimilation has occurred within such a cycle a further form embodies the next cycle. When learning is proceeding in one mode, for example be it, enactive, iconic or symbolic, corrective information is only applied to this form of representation and the economy inherent in this form of representation.

Pedagogical theory again according to Bruner is not only technical, but cultural, ideological and political and it is to such matters that the next focus will apply.

*   *   *

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A THEORY OF THE SOCIAL INFRASTRUCTURES OF KNOWLEDGE

Knowledge evolved and constructed through the social processes of this system has an integrity and unity of purpose in that it is not divorced from its relevant context and the learner is placed inside of the dialectical processes. Esland when talking about an epistemology that treats the human as external passive receiver states:-

> "....that the epistemological sufficiency of objectivism is directly challenged by the sociology of knowledge, which insists that man is seen as existentially related to his social structures".[1]

Many of the areas for further study signposted by the key document which enabled expertise were placed in a social structure that would allow them organic growth and infrastructural relationships e.g. the "Veterinarian" signposted the animals, the "animals" signposted the ecology of the Bronze Age environment which in turn exposed and yielded a wide area of curriculum studies. In this system this interrelatedness has no boundaries and the ongoing processes have an eternal spiralling mechanism which can only be controlled by the frame and context that the teacher employs to the social world of knowledge and the selectivity of curriculum demands.

This pedagogy is socially based and the practice of it must reflect the essential theory that knowledge is socially acquired through a process of interacting with a group endeavour who are at base engaged in understanding themselves and the world in which they live. At bottom the matrix from which such an awareness evolves is the working through of tasks which have a relation to the life of the social grouping.

The child continually interacts with the task and through the task is connected to the life of the social system. It is with respect to enabling a social world structure and exploring its infrastructures that the interrelatedness of knowledge is understood. Knowledge is not an isolated or fragmented body of facts existing in a vacuum. It is this very interconnectedness of this system that highlights the inadequacy of a psychological theory of education being the decisory factor in evolving curriculum theory. Douglas Barnes points to the wide area of communication and curriculum and the social order of a classroom and speaks to the fact that none of the elements can be viewed separately as each interact in the dynamics of a classroom encounter:-

> "Here a psychological model
> of learning is not enough -
> for curriculum theory a social
> model is needed, for it must
> acknowledge both learner and
> social milieu and include
> communication from pupil to
> teacher as well as vice versa". 2

The objective of endowing an area of expertise also includes the endowment of a social structure from which the social processes allowing the development of social knowledge will evolve. Geoffrey Esland crystallises the essential relationship between the child and the knowledge of the curriculum when he points out:-

> "The significant key to pedagogical
> assumptions concerning the child's
> ultimate intellectual status and the
> quality of his learning is the
> organization of knowledge and its
> perceived status in relation to the   3
> total knowledge of the curriculum"

The child is placed in this system and endowed with an expertise which allows him optimum mobility to operate at any level of the social system and apply the relevant areas of knowledge.

This structure and position affords the child a situation that he will never have in the real world but also allows him to understand better the nature of the real world and his position in it.

Why are our children treated as passive objects in our educational system? Fritjof Capra in his book "The Turning Point" (1982) maintains that our society is in crisis, and that this crisis is essentially a crisis of perception. This crisis he believes derives from the fact that we are trying to apply the concepts of an outdated world view, that is the mechanistic world view of a Certesian - Newtonian science - to a reality that can no longer be understood in terms of these concepts. He maintains that:-

> "We live today in a globally
> interconnected world, in
> which biological, psychological,
> social and environmental phenomena
> are all interdependent". [4]

Capra further elaborates upon the individualistic theme and the subjective view of knowledge:-

> "The limitations of the Cartesian
> world view and of the value system
> which lies at its basis are now
> seriously affecting our individual
> and social health". [5]

Capra proposes a systems view of living systems:-

> "The systems view looks at the
> world in terms of relationships
> and integration. Systems are
> integrated wholes whose properties
> cannot be reduced to those
> smaller units. Instead of
> concentrating on basic building
> blocks or basic substances the
> systems approach emphasizes basic
> principles of organization.
> Examples of systems abound in
> nature. Every organism from the
> smallestbacterium through the
> wide range of plants and animals
> to humans - is an integrated whole
> and thus a living system.
> The same aspects of wholeness
> are exhibited by social systems....
> ....
> living systems have to be
> understood in terms of processes
> reflecting the system's dynamic
> organization". [6]

Capra points out that the activities of a machine are determined by its structure, the relation is reversed in organisms - that is, organic structure is determined by processes. Capra speaks of the dialectical relationship between the human and the environment and seems to be mirroring both Bruner's and Mead's epistemological theories when he says:-

> "In our interactions with our environment there is a continual interplay and mutual influence between the outer world and our inner world. The patterns around us are based in a very fundamental way on the patterns within. Patterns of matter mirror patterns of mind, coloured by subjective feelings and values.......
> Thus the outer and inner worlds are always interlinked in the functioning of a human organism; they act upon each other and evolve together. As human beings we shape our environment very effectively because we are able to represent the outer world symbolically to think conceptually and to communicate 7 our symbols, concepts and ideas.

Capra concludes "to describe the world effectively we need an ecological perspective which the Cartesian world view does not offer. In order to develop such a perspective an educational system must reflect such a way of seeing the world, "Mantle of the Expert" is such an educational system.

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