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The Methodological Basis of Dewey's Philosophy of Education

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To the Graduate Council:

I am submitting herewith a thesis written by Richard LeRoy Parker entitled "The Methodological Basis of Dewey's Philosophy of Education." I have examined the final electronic copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Arts, with a major in Philosophy.

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To the Graduate Council:

I am submitting herewith a thesis written by Richard LeRoy Parker entitled "The Methodological Basis of Dewey's Philosophy of Education." I recommend that it be accepted for nine quarter hours of credit in partial fulfillment of the requirements for the degree of Master of Arts, with a major in Philosophy.

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THE METHODOLOGICAL BASIS OF DEWEY'S PHILOSOPHY OF EDUCATION

A Thesis

Presented to

the Graduate Council of

The University of Tennessee

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

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by

Richard LeRoy Parker

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R. L. P.

ABSTRACT

The purpose of this investigation was to show the methodological basis of John Dewey's Philosophy of Education, to state his explanation of the method best suited to education, and to establish a relationship, if any, between his philosophy and attitudes in contemporary education.

A search was made covering most of Dewey's written work, including a bound edition of his lecture notes. A thorough study of Joseph Ratner's commentary on Dewey's Philosophy of Education and of Dewey's exposition on logic, or inquiry, was undertaken. It was mainly from these sources that Dewey's Philosophy of Education was determined. The experiences and comments of a few contemporary educators were cited to indicate the relevancy of what Dewey advocated for what is taking place in education today.

Dewey's method of teaching was based essentially on the scientific method, which he expanded or modified to fit the individual's educacational needs in his total environment. Dewey emphasized the importance of a student having experiences immediately beneficial to him. He also advocated that educators be on the alert for signs of creativity and to encourage its development.

Experimentation is, according to Dewey, the mode of acquiring knowledge in science and, therefore, in education. He insisted that a necessary condition for knowledge is that it be useful or enjoyable.

This study concludes with some observations concerning Dewey's influence on education:

1. Educators today are making considerable effort to develop the "whole" person.
2. Individual differences in students are considered in teaching.
3. The importance of vocational development is recognized.
4. Many educators are interested in applying the scientific method of inquiry to teaching.
5. Many teachers consider education as growth, the one word that perhaps identifies John Dewey's philosophy of education.

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CHAPTER I

THINKING

I. INTRODUCTION

Thesis: John Dewey's method of inquiry--the scientific method --accounts for his ideas on education.

Constructive thinking is, of course, a thing that educators hope, and work to see grow in the student. That is not to say that the educator pours into the mind of the learner certain facts and ideas and that the learner in turn spills forth, in a repetitious monologue, that which he has memorized. No teacher admits to being guilty of this sort of instruction, yet every teacher can point to another and accuse him of such malpractice. It was this traditional mode of education that created a rebellion in Dewey and caused him to seek the answers to questions about learning, and to suggest innovations that would perhaps facilitate the acquisition of knowledge and produce superior results in the field of education which would ultimately benefit society as a whole.

In order to analyze the process of learning, Dewey looked at man in his entirety and found in the idea of reasoning the answer to many questions concerning education. Reasoning, quoting Dewey,

> . . . is marshalling a series of terms and propositions until we can bind some doubtful fact firmly to an unquestioned,

> although remote, truth; it is the regular way in which a certain proposition is brought to bear on a precarious one . . .[1]

Reason, according to John Dewey, when used as a noun,

> . . . signifies the happy cooperation of a multitude of dispositions, such as sympathy, curiosity, exploration, experimentation, frankness, pursuit . . . circumspection . . .[2]

This discussion will begin with a working definition of thinking--the genus, of which reasoning is a species--and will present salient points of the process based on Dewey's observation of the function and results of thinking.

II. DEFINITION OF TERMS

Thinking

Dewey distinguishes two types of thinking, reflective and unreflective. Reflection is the better way of thinking--the type that education should encourage and cultivate in the student. Unreflective thought is the loose way and should not be cultivated. It is composed of three kinds of thinking. The first kind, Dewey calls "Stream of Consciousness," and it is characterized by the automatic, unregulated, and uncontrolled coursing of ideas through one's mind. Most of us spend many waking hours in this inconsequential trifling with mental pictures,

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[1]Joseph Ratner (ed.), Intelligence in the Modern World: John Dewey's Philosophy (New York: The Modern Library, 1939), p. 845.

[2]Ibid., p. 759.

random recollections, unfounded hopes, and flitting half-developed impressions. This kind of thinking is rarely, if ever, productive.

The second kind of thinking will be referred to--although Dewey did not name it, he only described it--as the mental picture type. This sort of thinking is of things not sensed, of things not seen, heard, touched, smelled, or tasted. The most important aspect of mental picture thinking is the succession of imaginative episodes, having a certain coherence, hanging together on a continuous thread, and lying between flights of fancy and considerations deliberately used to establish a conclusion. For example, children's imaginative stories all possess degrees of internal congruity; some are disjointed, some are articulated, but when connected they simulate reflective thought and are found usually in minds of logical capacity. These imaginative efforts often precede and prepare the way for a closely knit type of thinking.

A third kind of unreflective thinking is narrower than that of the foregoing examples. This kind of thinking is designated as a foster or adopted belief and refers to something beyond itself, for example, matters of fact or of law, by which it is tested. Such beliefs are not knowledge, but act as knowledge until questioned. Belief-thoughts grow up unconsciously from tradition, instruction, and imitation; they may be prejudices. These prejudgments are not conclusions reached by personal mental activity, such as observing, collecting, and examining evidence. If they are correct, their correctness is accidental.

Reflective Thinking

Reflective thinking is characterized by its regularity. It involves an ordered sequence of ideas, a consecutive ordering in which each idea determines the next one as its proper outcome, and each outcome refers to its predecessors. Each phase is a step from something to something--it is a term of thought. There is in any stream of reflective thought a chain of ideas moving to an end, a destination, or a conclusion that can be substantiated empirically. The goal controls the sequence of ideas. Reflective thinking may be motivated by a belief, particularly if the truth of the belief is threatened by our own doubting, by another person's challenge, or by empirical evidence. When we begin to determine the grounds for our beliefs, our beliefs will become more firmly entrenched, even be held dogmatically, or they will give way to alterations.[3] These alterations can be so severe that a contrary belief could be the result.

Reflective thinking is evidenced by an ordered, logical chain of ideas which have a controlling purpose and goal and which are subjected to personal examination, scrutiny, and inquiry. Reflective thought constitutes, in Dewey's own words, "active, persistent, and careful

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[3]Such transitions in beliefs are frequently accompanied by considerable emotional disturbances. Consequently, one wonders what is the relation between reflective thinking and emotions. Does the act of reflective thinking or does the product of the act cause emotional stimulation?

consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusions to which it tends."[4]

III. HOW REFLECTIVE THINKING WORKS

There are no sharp divisions between the operations of the two types of thinking, and perhaps the only distinctive sign of reflective thinking is that it is concerned with solving problems. The different modes of thinking blend into one another until each type, at times, resembles the other. We have here two poles of thinking. The negative pole is merely the irresponsible stream of fancies, or daydreaming, and it is nonproductive. Careful examination of evidence--controlled, productive thinking--constitutes the positive pole.

> . . . On seeing an object . . . we just happen to think . . . of something else; . . . we consider the possibility and nature of the connection between the object seen and the object suggested. The seen thing is regarded as in some way the ground or basis of belief in the suggested thing; it possess the quality of evidence.[5]

From the above quotation, three questions arise:

1. What is it that causes us to "just happen to think"?
2. Why do "we consider the possibility . . ."?
3. What mechanism, organism, or force causes us to regard "the ground"?

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[4]John Dewey, How We Think (Boston: D.C. Heath and Company, 1933), pp. 1-9.

[5]Ibid., p. 10.

Dewey apparently doesn't answer these questions. If he had answered them we would know more about the process of learning. He just describes thinking; he is not explaining it. His control factor in all reflective or distinctively intellectual thinking is the function of the mental process that one thing signifies or indicates another. Reflection commences upon the inquiry of the reliability of a particular indicator, and the possible acceptance of the thing suggested or indicated. Postreflective belief is that which is believed after inquiry, after doubt has been dispelled.

According to Dewey, reflective thinking starts in a state of doubt, which is characterized by hesitation, perplexity, or mental difficulty.

> Some inhibition of direct action is necessary to the condition of hesitation and delay that is essential to thinking. Thought is, as it were, conduct turned in upon itself and examining its purpose and its condition, its resources, aids, and difficulties and obstacles.[6]

The act of searching, hunting, or inquiring to find a way to resolve the state of doubt or to dispose of the perplexity is the second phase of reflective thinking. The result of the second phase or act is the bringing of facts and their relations into focus so that one may reach a conclusion.

We may infer, at this point, that if one is having mental difficulty and is unable to engage in the second phase--the act of

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[6] Ibid., p. 108.

resolution--then he will remain in a state of doubt, and this doubt may eventually affect his health. The problem then becomes one of helping the learner help himself act to resolve his doubts. How effectively does education function in this capacity, or is this a function of education? Is education generally concerned about the doubts which it creates in the student? (This question refers primarily to values.) Perhaps one would disagree that education produces doubts in students, or even small anxieties, and argue that some other facet of society is responsible for such doubting and resolutions. In any case, reflection is aimed at the discovery of facts that will serve the purpose--that of reaching a solution. The need for a solution is the "balance wheel" and compass for the entire process of reflection. "The nature of the problem fixes the end of thought and the end controls the process of thinking."[7]

IV. FINDING THE UNKNOWN AND VALIDATING AN INFERENCE

In instances of reflective thinking, a person faces a given present situation. His task is to arrive at something else, something that is not present. The process of arriving in thought at something different from what is given is inference. From observed and remembered facts, one draws an inference, or inferences, from which other inferences may be established. Every inference goes beyond established facts,

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[7] Ibid., p. 15.

and to do this, Dewey says, involves a jump from the known into the unknown.[8] His using the word "jump" is somewhat contradictory in that jump implies isolated bits of knowledge that are collected by leaping from one to the other, like crossing a bay by hopping from one ice cake to another. He could have used crossover which would imply that there is a bridge from the known to the unknown, which there is. The bridge is the relationship established by the suggestion of something else. One needs to find the relationship, bridge, and crossover to the unknown which then becomes known. Each new idea has a vestige of past ideas. It is from one's past experiences that specific suggestions arise, and the nature of each suggestion will depend upon the person's own interests. A suggestion is made; it is controlled by the facts, and from the suggestion, an inference or a number of inferences may be drawn by the process of inferring.[9] We have a tendency to believe an inference as true, but before an inference becomes belief it should be tested for its validity or else it remains an opinion without much worth. Dewey emphasizes that what is important is:

> . . . that we discriminate between beliefs that rest upon tested evidence and those that do not, and accordingly, to be on our guard as to the kind and degree of assent or belief that is justified.[10]

Inferences are tested in thought and by action. In thought, all the elements of an inference are checked to determine if they are coherent one with another. Action checks the factual consequences with

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[8] Ibid., p. 96. [9] Ibid. [10] Ibid., p. 97.

anticipated consequences in thought. Testing in thought involves acting in imagination, while action--physical or empirical--involves carrying out overtly the imagined act. For an inference to be valid, it must be in agreement with a desired conclusion meeting the requirements of the situation.

> The function of reflective thought is, therefore, to transform a situation in which there is experienced obscurity, doubt, conflict, disturbance of some sort, into a situation that is clear, coherent, settled, harmonious.[11]

Reflective thinking brings before the imagination actual life-situations; some contain doubt, and others have a desired outcome. An inference vital to any experience alters the situation in some respect by clarifying a vague aspect of the experience and by helping to arrange a continuity of thought--an order of ideas. Genuine thinking terminates with an appreciation of new values.[12] The appreciation one experiences is due to one's having "given birth" to his own creation through his own thought; it is uniquely his own. What we do ourselves, with or without direction, warrants a degree of recognition for our accomplishment. Further appreciation develops when we recognize that our accomplishments lead to additional desired experiences. A residual of an experience will be evident, although sometimes vaguely, in any new or different experience.

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[11] Ibid., p. 101.

[12] Ibid.

V. THE PROCESS OF RESOLVING A DIFFICULT SITUATION

When one faces a problematic situation, he may pursue its resolution in different ways. He may avoid it; he may engage himself in fantasies; or he may choose to resolve the conflict, in which case he will resort to reflective thought.[13] When he begins to reflect, he looks for data relevant to the problem. Any facts not related to the situation are discarded, leaving only those data, which when reflected upon will produce suggestions leading to a conclusion. Memory is brought into play as one endeavors to recall similar circumstances of his own or of others, and again, only those elements of his past experiences are considered which are likely to help solve the present situation. The facts may be "good" or "bad," positive or negative, beneficial or a hindrance toward reaching a conclusion but as they constitute the "facts of the case," they must be dealt with--they are there.

As one surveys the facts, suggestions for possible action arise and compete for consideration as a solution. Each suggested solution that imagination presents is judged. One may evaluate many hypotheses before he resolves the difficulty--finds the desired consequence.

Problems, facts or data, and suggested solutions are components of an experience, and the experience becomes of greater importance when one engages in reflective thought. Reflection produces a clearer understanding of what was involved in the experience. As the thinker has

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[13] Ibid., p. 102.

increased his knowledge, he is better equipped to engage in further experiences of doubt and to face more difficult problems with less anxiety and with more confidence.

The Problem As An Element of Experience

If, within the context of one's experience, a problem or state of doubt does exist and a solution is desired, the problem should be delineated and clearly stated. It may be stated as a proposition or as a thesis; however it is stated, a solution will come about more readily by either formal logic or by reflective thinking, which is natural logic, than by chance. Reflective thinking manipulates ideas based on facts to produce solutions that can be overtly acted upon. A problem whose solution could not possibly be executed is a hypothetical problem, and any suggested solution to it may be of no practical value in the experiences of "every day life." The conclusions of a logical argument are just conclusions unless they are validated by observation, testing, measurement, being put into action, and proved in contextual application, each of which is inquiry. Short of inquiry, a conclusion remains the result of a "parlor game." A conclusion should be a springboard for different experiences; it should lead to innovations and it should be profitable.

Prior to a problem, the process of thinking is, using Dewey's term, "pre-reflective." Prereflection is the stage of becoming aware of a perplexed situation. By intellectualization of the difficulty, the problem becomes clear, enabling the setting of its limits. Reflection systematically strives for a solution of practical consequences. When

the solution is accepted, believed to be true, the situation becomes postreflective. It is in between these limits that the process of reflective thinking is active. The problem determines the relevancy of all data and hypotheses. Reflective thinking often produces many hypotheses, but some may be irrelevant. Hypotheses, among those that are relevant, are tested until a solution is found.

To summarize briefly, we have first an experience and within that experience a situation arising which causes doubt or difficulty. The sensing that a problem exists and that it needs a solution to bring the experience into a state of harmony or calmness results in reflective thinking. The problem is defined and given limits; facts or possible causes of the problem are gathered, assimilated, and sorted for their relevancy. These facts suggest ideas which form possible solutions, and they are judged or evaluated by testing to determine the best possible solution which in turn is tested for its consequences. The solution is put into action. During the process of reflective thinking, a solution is anticipated, and the solution selected will depend on what is already known, and on past experiences. Once the final solution is validated, it is entered into our reservoir of knowledge--it is true; it becomes a belief. This belief is a <u>postreflective</u> belief and is retained until it is confronted with additional or new data, causing another state of doubt. The "new" state of doubt will vanish by a firmer hold on the current belief or by replacing it with another belief grounded on the "new" consequences of the "new" solution. It is by reflective thinking that one rids himself of his prejudices and grows intellectually. Any

belief one holds is tempered by reflection, or it crumbles under the fire of research and inquiry.

CHAPTER II

INQUIRY

I. INQUIRY BEGINS IN DOUBT

> Reflection commences when we begin to inquire into the reliability, the worth, of any particular indication; when we try to test its value . . . to justify its acceptance.[1]

Reflective thinking is motivated by doubt, but the process of reflective thought involves inquiry. Inquiry, then, is related to doubt. In fact, Dewey says that inquiry begins in doubt and terminates in the establishment of consequences which dispel doubt.[2] The state of equanimity following inquiry may be designated as belief or knowledge. Instead of using the words "belief" or "knowledge," Dewey prefers to use the term "warranted assertibility" as "it is free from ambiguity and it involves reference to inquiry as that which warrants assertion."[3] The conclusion of a particular inquiry may be "true" and warrant assertion. Later, continued inquiry may warrant a different assertion. This would indicate that the first assertion was not "true," even though it was warranted on the basis of the evidence available at that time. A belief

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[1] John Dewey, Education Today (New York: Van Reese Press, 1940), p. 11.

[2] John Dewey, Logic: The Theory of Inquiry (New York: Henry Holt and Company, 1938), p. 7.

[3] Ibid., p. 9

warrants assertion if, at the termination of the inquiry, it resolves the doubt, or solves the problem, which initiated the inquiry. For example, at one time it was held that an atom was indivisible, and on the basis of the evidence available the belief was probably warranted; later inquiry disclosed that the belief was "untrue." One might say that belief is the terminus of reflection put into action, or the outcome of inquiry.[4] We now see, according to Dewey, that a resolution of doubt may necessitate reflective thinking, and that inquiry is an inherent characteristic of reflective thought.

II. NATURAL FOUNDATIONS OF INQUIRY ARE BIOLOGICAL

When men inquire, their eyes, ears, hands, and their brains enter into the process. These biological organs--sensory, motor or central--are necessary factors or conditions for inquiry. Biological functions and structures prepare the way for deliberate inquiry and prefigure the plan of inquiry.

Life is a process of activity that involves an environment and that extends itself beyond its spatial limits. An organism lives by means of an environment, not <u>in</u> an environment. An environment is the only source of restoration of energy expended through the activities of life. The process of life is an integration of the organism and its environment--each works to maintain a balanced entity and each

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[4]The belief or knowledge which Dewey calls "warranted assertibility" is <u>postreflective</u> belief.

particular activity is preparing the way for another activity. Dewey says that:

> . . . living may be regarded as a continual rhythm of disequilibrations and recoveries of equilibrium. The "higher" the organism, the more serious become the disturbances and the more energetic (and often more prolonged) are the efforts necessary for its reestablishment.[5]

Any change of balance within an organism is cause for inquiry. The organism needs to maintain its equilibrium--a state of tension needs to be transformed to a state of calm. The calm returned to is rarely, if ever, the same state of calmness preceding the tensional state. From calmness through tension to calmness changes can and do take place in the organic and environmental aspects of life.

The stimulus received by an organic receptor energizes the organism to action (or inaction), and such action can be the beginning, according to Dewey, of inquiry. In a relationship of environment to the biological receptors, excitation-reaction--a definite order of initial, of intermediate, and of final activity--is instituted; that is, from the instant of sensing to the act of resolution of the stimulus, an orderly, logical process unfolds. The process may be completed instantly or it may take some time for an understanding of the consequences. Dewey refers to this process as "behavior-development"--perhaps because each experience changes one's behavior minutely, or drastically, or even to a habituated condition. Behavior-development is a "circuit"; the tension

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[5]John Dewey, Logic: The Theory of Inquiry, pp. 25-27.

of the elements of organic energy is the "open" phase, and the integrated interaction of organism and environment is the "closed" or final phase of the "circuit."

To recognize that inquiry is a "special mode of behavior," as Dewey indicates, is to recognize that inquiry is a dynamic integrating activity instead of being independent of environment. Integration of the organism with its environment restores to the organism a state of calm although such a state is but momentary. Total integration of an organism with its environment, it seems, would only come with death, as life is a continuous interplay between influences shaping an organism's becoming, and each engagement of an organism in inquiry produces a "mode of behavior" different from, for example, satiation.

Another conclusion, drawn from Dewey's biological analysis is that:

> . . . the structure and course of life-behavior has a definite pattern, spatial and temporal. This pattern definitely foreshadows the general pattern of inquiry. For inquiry grows out of an earlier state of settled judgement, which, because of disturbance, is indeterminate or problematic . . . and then passes into inquiry proper . . . when the search is successful, belief or assertion is the counterpart . . . of reintegration upon the organic level.[6]

All inquiry involves making some change in environing conditions. This thought derives its support from the results of scientific inquiry or experimentation--experimentation deliberately modifies prior conditions. The pattern of life-behavior is a serial pattern; each "new" phase is

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[6] Ibid., p. 34.

contingent upon previous experiences or problems. The relationship of past experiences to what is confronted is often obscure and difficult to determine; but through constructive, reflective thought, which includes an element of inquiry, usually a connection can be established between the past and the immediate. Reflective thought formulates desired consequences, makes plans, and orders the consecutive means for the plans to be put into action. Dewey describes the serially-connected process leading to a consummatory close of inquiry as intermediate, i.e., intermediate between doubt and the solution to a problem. The operation of the action validating the consequences, he calls instrumental.[7]

The continuous expenditure of energy to resolve doubt, observed by Dewey, resulted in his postulate of natural continuity of logic--that inquiry is a development out of organic-environmental integration and interaction and that logic is rooted in the conditions of life itself.

Logic has a serial relation and, as noted by Dewey, life-behavior has a pattern serially constructed or logically formulated. Both organic and environmental energies involve modifications in life-activity, a fact that prefigures learning and discovery. Inquiry settles disturbed relations of organism-environment and institutes new conditions with new problems, and what is learned through inquiry is instrumental in changing environment.

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[7] Ibid., p. 35.

The consequences of such inquiry produce confidence to resolve other, and perhaps more complex, problems in the physical world and in the cultural environment.[8]

III. HUMAN CULTURE IS A SOURCE OF PROBLEMS FOR INQUIRY

Dewey recognizes that environment involves the cultural aspects of life as well as the physical aspects and that many problems for inquiry arise out of the relations of one person to another. One's response to his physical conditions often determines his survival, and so does one's response to cultural conditions. The reaction of withdrawing the hand from a hot stove, or the jumping at the sound of thunder, is not an example of cultural behavior; such reactions are on the biological plane. The use of sound, light, odor, and touch are representative of human activity, that is, using the senses for the regulation of endeavors, social or otherwise. Man's acts are determined by his organic structure and by the influence of his culture. Speaking appears as a natural activity, but it is a modification imposed on man by his culture--a modification wrought within the biological organism. A modification of organic behavior by culture is a transformation of organic behavior into behavior characterized by intellectual properties. The biological behavior of man is the basis or groundwork for intellectual operations.

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[8] Ibid.

It is at this point that many people will hold that Dewey is in error and will attribute the marked differences between man and the lower animals to a nonnatural source, to Reason, to Intuition, to the *a priori*, or to something transcendental. The point Dewey is making is that intellectual activities are continuous with biological activities. The life of a human is a continuity of change in the total environment--physical, biological, and cultural.

The special constitution of an individual is important in biological behavior, but in controlled inquiry it needs to be discounted and mastered.[9] Personal traits tend to influence the result that is reached in inquiry. For one to be intellectually objective, he must not let personal factors dictate the results of inquiry. The mastery of the special constitution of the individual, of being "intellectually objective" and the formation of intellectual behavior are conditions which are culturally derived.

Language is a Cultural Institution

Language occupies a particular place and exercises a particular function in the cultural environment complex. It *permeates* the form and content of all cultural activities. It is more than oral speech, as it includes the written speech, gestures, rites, ceremonies, monuments, and the products of both industrial and fine arts. Each is a mode of language; each has something to say which is understood by those within the

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[9] *Ibid.*, p. 44.

specific cultural complex. For example, the machine "tells" the machinist of its limits of precision. Monuments depict the greatness of and the esteem held for the man, god, or animal for which it was erected.

The institution of language is only one of many institutions in a society. Language is the means of transmitting information, habits, or plans within a culture, or from one institution to another, or from one culture to another. Communication makes available a common basis for people to engage in a conjoint undertaking.

Any point common to all in a culture is first established by language. Language compels one individual to take the standpoint of others and to see and inquire from a nonpersonal standpoint, nonpersonal because the standpoint is no longer one's own private view or position. When one takes the standpoint of others, his behavior becomes intellectual as distinct from a biological mode of behavior. Dewey points out that language has the special function of effecting the transformation of biological behavior into intellectual behavior and into potentially logical behavior.[10]

In addition to transforming behavior, language is used in creating and directing cultural functions. Language is necessary for the existence and transmission of intellectual activities, and as a communication medium, it allows for more complete interaction between people, interactions above the merely physical. An interchange of words or ideas

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[10] Ibid.

produces "new" arrangements of words or different ideas, of which some may be beneficial.

Language has a structure, and in abstraction, it is a form. It is made up of physical existences--sounds, statues, or marks on paper--and they operate in virtue of their representative capacity or meaning.[11] Meanings are determined by common consent, that is, each meaning of a symbol produces a behavior; common response to a symbol establishes the meaning of that symbol.

If there is no agreement in the culture as to the relationship of symbols to behavior or behavior to symbols, then there cannot be any meaning common to individuals. People without a common meaning are unable to communicate, and without communication there is no understanding. It is through symbol-meaning that a common ground is established. Should a symbol or word change in meaning from one culture to another, then misunderstanding is the consequence. Dewey states that "each meaning that enters into the language is expressly determined in its relation to other members of the language system."[12]

Again quoting Dewey, we find:

> The existence of symbols makes possible deliberate recollection and expectation, and thereby the institution of new combinations of selected elements of experiences having an intellectual dimension.
>
> . . . an activity and its consequences can be rehearsed by representation in symbolic terms . . . the way of acting may be replanned . . . to avoid [an] undesired outcome.[13]

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[11] Ibid., p. 46. [12] Ibid., p. 55. [13] Ibid., p. 57.

By the ordered development of meanings in their relations to one another, implicit logical conditions are made explicit, and logical theory, perhaps primitive, is born.

IV. SCIENTIFIC INQUIRY

Scientific inquiry deals with problems that are characteristically devoid of qualitative import, that is, the problems of scientific inquiry are of a quantitative and relational nature. The goal for scientific inquiry is the systematic relationship of facts and conceptions one to another, and this is dependent upon the elimination of the qualitative and its reduction to nonqualitative formulation. Dewey says that "the problem of the relation of the domain of common sense to that of science . . . is the relation . . . of subject matters of practical uses and concrete enjoyments and of scientific conclusions . . . ."[14] Different problems and subject matters require different emphases in inquiry, and for this reason, different logical forms come into use. There is no sharp dividing line between common sense and science, as is illustrated by Dewey's conclusions:

1. Scientific subject matter and procedures grow out of the direct problems and methods of common sense, of practical uses and enjoyments; and-

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[14] Ibid., p. 66.

2. React into the latter in a way that enormously refines, expands, and liberates the contents and the agencies at the disposal of common sense.[15]

In support of the above conclusions, Dewey "debunks" the notion of there being two kinds of knowledge.

Knowledge has as its object that which is perceived, i.e., discriminately noticed, but the perceiving of the object is not ultimate knowledge. The perceiving only gives direction of behavior for the use or enjoyment of the object in the situation where the object is perceived. The notion of there being two kinds of knowledge emerges by considering the object of specific observation as an object of knowledge in isolation. As Dewey has shown, the object must be connected to the contextual whole by use. It should be noted that the development, invention, or discovery of mathematics, physics, mechanics, sciences, and all other disciplines grew out of the practical application of symbols or out of language meeting a practical need. This is the germ of Dewey's instrumentalism. Man's common sense environment is like a forked tree: One branch terminates in the sciences and technology, and the other branch culminates in the nonscience or humanitistic affairs of life. The trunk of the culture remains common sense. The whole "tree," which is cultural environment, is rooted in the physical or natural world, and the total composition--contextual whole--constitutes man's complete environment. The transition from common sense to the general activity,

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[15] Ibid.

science, and each transition from science to a specific area of research, was conditioned by a practical need. The practical need was instrumental in the transition from common sense to the nonscientific aspects of life. Dewey's use of the word "need" leads to the trite expression, "Necessity is the mother of invention," which is not what Dewey meant. Man desires that which he can use and enjoy, and if what man invents causes enjoyment or creates an easier way of doing something, then the invention is practical.

The data gathered by scientific inquiry, which is sometimes referred to as knowledge, finds its use, usually, within the field of discovery, but a determination of its relevance for knowledge, practical use, or value is subject to severe testing by society. An example is the splitting of the atom. The knowledge of atomic energy is vast, but its usefulness was not proved nor its practicality established until the physicist, chemist, engineer, and technician built atomic reactors for vessels, vehicles, and power generating units for society to test.[16] Knowledge gained by scientific inquiry, including scientific conclusions and methods, by the process of infiltration and incorporation, causes the contents and techniques of common sense to undergo revolutionary change. Human relationships are also affected, as is evidenced by the drastic social changes in the States. Communities have changed from rural to urban to suburban cultures; schools have added subjects to

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[16]The illustration excluded the atomic bomb which could be considered practical and useful in war, but in general, it is believed society considers war and the destruction of life as impractical.

their curriculum and have dropped some subjects considered obsolete. Practically every facet of our culture and environment has undergone some change because of scientific inquiry in the physical and life sciences.

Dewey says, however, "Science takes its departure from common sense, but the return road into common sense is devious and blocked by existing social conditions."[17] How, then, does the knowledge discovered by sciences affect society? Could it be that education and the media of communication share the responsibility to inform society of the benefits of scientific knowledge? Those who would have education transformed into a science would free education from any such responsibility. A science is concerned with different types of problems demanding different modes of inquiry. The problems of science are nonqualitative, and the subject-matter is stated in terms of magnitude and ratios; they are nonteleological. Is the description of the problems of the sciences relevant to the type of problems confronting education? Education seems to be more socially oriented than the sciences, and its problems would more nearly fit Dewey's description of common sense problems.

> . . . Common sense is concerned with a field that is dominantly qualitative . . . common sense is concerned, directly and indirectly, with problems of use and enjoyment, it is inherently teleological.[18]

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[17] John Dewey, Logic: The Theory of Inquiry, p. 77.

[18] Ibid., p. 76.

It seems that education is better situated in the contextual whole of humanity to serve the process of integration of scientific inquiry and common sense. It speaks the language of both; and it usually has access to the scientific conclusions and can move readily to test these conclusions for the desired consequences in a microcosmic situation.

Educational institutions, because they are dispensers of knowledge, face the dilemma of what it is they are dispensing--facts or data, isolated knowledge, real knowledge, or a conglomeration of conclusions which have to be qualified by the consumer. Dewey tried to give direction for moving out of the predicament when he said:

> Knowledge is in no case an end in itself but is a means or instrument for the development of character and for the enrichment of the life experience . . . knowledge has both its origin, its starting point, and its function, its application, in something outside itself.[19]

If what education chooses to dispense does actually develop character and enriches the life of the consumer, then that which is dispensed is knowledge.

V. INQUIRY HAS A COMMON STRUCTURE, A PATTERN

> Inquiry is the controlled or directed transformation of an indeterminate situation into one that is so determinate in its constituent distinctions and relations as to convert the elements of the original situation into a unified whole.[20]

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[19]Reginald D. Archambault (ed.), Lectures in the Philosophy of Education: 1899 by John Dewey (New York: Random House, 1966), p. 76.

[20]John Dewey, Logic: The Theory of Inquiry, p. 105.

Dewey's definition of inquiry, simply stated, is: Inquiry is the deliberate transformation of a vague situation into a unified one.

The beginning of inquiry has as its antecedent an indeterminate situation that by its nature evokes inquiry. One must be aware that a situation exists which is indeterminate. The situation may be characterized by disturbing, confusing, troubling, or obscure "feelings" of which one has a desire to dispel. The state of doubt must be relative to some existential thing--something within the environment, not a "something" within the personal state. An indeterminate situation arises when an organism is involved in an interaction that poses a problem for the organism. In Dewey's words, "the indeterminate situation comes into existence from existential causes . . . ."[21]

Dewey says that "to see that a situation requires inquiry is the initial step in inquiry."[22] After determining or deciding that the situation requires inquiry, the problem is formulated. The way the problem is conceived decides what suggestions for a possible solution are entertained and what data from the situation are selected relevant to the problem.

The problem must be potentially solvable, or it is not a problem. But the solution need not appear immediately; it may come any time in the future, particularly if the problem is in need of extended research, inventions, or cultural attitude changes. Possible solutions to a

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[21] Ibid., p. 107.

[22] Ibid.

problem should begin to appear when the problem is definite and clear, and data relevant to the problem have been gathered.[23]

A suggestion secured by observation becomes an idea, a plan for action, when it is examined with reference to its functional fitness, when its capacity as a means for resolving the indeterminate situation is examined. This examination is a form of reasoning. Reasoning plies idea against idea, fact against fact, and ideas against facts to bring about additional facts and ideas and to organize them into a coherent whole.[24] The theory of such forms of inquiry is logic.

Logic in Inquiry

Dewey states that "logical theory is the systematic formulation of controlled inquiry."[25] He also holds that logic is a theory of experiential, naturalistic subject-matter and that "logical forms accrue to subject-matter when subject-matter is subjected to controlled inquiry."[26] Logic is also a naturalistic theory--naturalistic in the sense of observability of activities of inquiry.

Logic, a component of the natural process of inquiry, operates within inquiry, providing postulates which are the stipulations, specifications, and demands placed on inquiry. The subject-matter of logic, in inquiry, is determined operationally--"operational" meaning in and by

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[23] Ibid., p. 110.

[24] Ibid.

[25] Ibid., p. 22.

[26] Ibid., p. 101.

the way the subject-matter becomes the means to the end of inquiry.[27] The value of the conclusions of logic is in providing propositions for seeking additional relations and propositions that are relevant to the problem undertaken by inquiry. Each proposition from logic is judged for its usefulness in furthering inquiry. Logic is instrumental. Logic is a progressive discipline, a social discipline, and it is autonomous. It does not depend upon anything outside of inquiry.[28]

To summarize, briefly, the structure of inquiry: Out of an indeterminate situation, a decision is made to engage in inquiry to bring an uncertain situation into a determinate one. The problem is delineated; facts, data, suggestions, and ideas are gathered by observation, reason, and the use of logic; a conclusion is reached, and is subjected to testing in the contextual whole. The conclusion is validated and becomes the solution to the problem when the consequences of the experimentation are desirable--useful or enjoyable.

Inquiry, having its foundation in nature, is a continuous, orderly process, logically controlled and developed from its beginning to its end. It follows the rules of logic--which were extracted from inquiry--to a conclusion. The pattern of inquiry is logical and is common to both common sense and to science.[29]

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[27] Ibid.

[28] Ibid., pp. 14-21.

[29] Ibid., p. 114.

CHAPTER III

INSTRUMENTALISM

I. KNOWLEDGE

> . . . to assume that anything can be known in isolation from its connections with other things is to identify knowing with merely having some object before perception or in feeling, and is thus to lose the key to the traits that distinguish an object as known . . .. The more connections and interactions we ascertain, the more we know the object in question. Thinking is search for these connections . . .. There is no knowledge without perception; but objects perceived are known only when they are determined as consequences of connective operations.[1]

All knowledge fans out or radiates from a particular to a universal--a particular ball to a universal figure of a ball or sphere--or from a universal to a particular. "Knowledge," says Dewey, "is to be defined in terms of inquiry . . . both in particular and universally."[2] At this point, one may ask is 2 + 2 = 4 particular or universal knowledge, or is it self-evident knowledge?

Any number is a formula for operatively determining collections. "A number, 2 or 4, is a collection satisfying the conditions prescribed by the definition of a number . . .. Thus, 2 means that the operation

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[1]Joseph Ratner (ed.), Intelligence in the Modern World: John Dewey's Philosophy (New York: The Modern Library, 1939), pp. 788-9.

[2]John Dewey, Logic: The Theory of Inquiry (New York: Henry Holt and Company, 1938), p. 21.

which constitutes 1 is performed twice."[3] It would seem that a number being operational would function in either category--particular or universal, or any part of the universal. Any number above 1 is but a multiple of units; therefore, an operation may at one time be a particular operation and belong to a type of universal operation. If there is only one operation of a kind, then that operation is unique; it is in a class by itself. The 2's are elements operated upon, while the + and = are operations performed, and 4 is the conclusion or result of the operations performed.[4] "The meaning or force of mathematical axioms is determined and tested by what follows from their operative use."[5]

To say that 2 + 2 = 4 is self-evident knowledge is to say that one is familiar with the formula and its operational use. Outside of a designated context, 2 + 2 = 4 has no functional meaning; according to Dewey, it is not knowledge until a 2 is "attached" to something--for example, to apples. A collection of apples, consisting of one apple and one apple combined with another group consisting of one apple and one apple, permits us to "know" that the combined collection contains four units, apples, or four of a kind. This is all that the formula 2 + 2 = 4 relates. The formula is an instrument that one may use to arrive at a quantity of like things without resorting to experimentally placing four

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[3] Ibid., p. 365.

[4] Ibid., p. 405.

[5] Ibid., p. 157.

units in a row and counting one, two, three, four, or counting until the last one in the series has been noted.

> To say that it [a thing] is self-evident means that the one who reflects upon it [the thing] in the meaning system of which it is a member will apprehend its meaning in that relation. . . .[6]

A proposition becomes self-evident only after its meaning is grasped. The logic, the function, and the interpretation of an empirical proposition, and perhaps a metaphysical proposition, remain open to evidential certainty.[7] A perceived thing is an object of knowledge but not knowledge as ultimate and self-sufficient.

> It is "known" only so far as guidance is thereby given to direction of behavior; so that the situation in which it is found can be appropriately enjoyed or some of its conditions be so used that enjoyment will result or suffering be obviated.[8]

The "universal" in such a phrase as "knowledge is universal" means that whatever is known or is to be known about anything, is available, or will be available, to everyone capable of understanding. "Knowledge" is an extraction--or if you desire, a creation--from nature, and whatever one can extract from nature can be extracted by others. But what is extracted from nature, according to Dewey, does not constitute knowledge until it is proved to be of value through use or enjoyment.

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[6] Ibid., p. 156.

[7] Ibid.

[8] Ibid., p. 67.

A central need for man is "to possess conceptions which are used as tools of directed inquiry and which are tested, rectified, and caused to grow in actual use."[9] Dewey says:

> To assume that anything can be known in isolation from its connections with other things is to identify knowing with merely having some object before perception or in feeling . . .. The more connections and interactions we ascertain, the more we know the object in question. Thinking is search for these connections.[10]

Knowledge is a function of association and communication. Knowledge "depends upon tradition, upon tools and methods socially transmitted, developed and sanctioned."[11]

Without perception, there is no knowledge, but perceived objects are known "only when they are determined as consequences of connective operations."[12] That which is perceived directs behavior for its use; it is an instrument for an experience, and its practical value is established by experimentation. In the Deweyan sense, that which is called "knowledge" is not knowledge until it is tested; before being tested, it is only raw material for experimentation. Hence, Dewey's philosophy is termed "experimentalism."[13]

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[9]Joseph Ratner (ed.), Intelligence in the Modern World: John Dewey's Philosophy, p. 392.

[10]Ibid., p. 788.

[11]Ibid., p. 390.

[12]Ibid., p. 789.

[13]Ibid., p. 58.

II. THE MEANING OF EXPERIMENTATION

Experimentation has advanced science even though an "experiment," as Whitehead says, "is nothing else than a mode of cooking the facts for the sake of exemplifying the law."[14] The experimental pot began to boil when Galileo dropped the balls from the Tower of Pisa. The performance at Pisa was more than an experiment; "it was the introduction and establishment of the new method of experimentation."[15] A basic teaching of Dewey's experimentalism is that scientific accomplishments were accelerated or made possible because of experimentation. Experimentation in natural science freed the scholar from the dogma of the ancients. This is not to say that experimentation did not exist prior to Galileo; it did, even if only at the level of tasting a substance to determine if it was salt. Any conscious, deliberate effort to determine a thing's usefulness is experimentation. In looking at even the most elementary forms of inquiry, as Dewey did, one sees definite controls at work.

Scientific inquiry is "controlled inquiry," and to control, it is necessary to be controlled.[16] The interactivity of controlling and being controlled by in the process of "controlled inquiry" is fundamental. In inquiry, we are controlled by the problem, i.e., the nature of the problem dictates what instruments will be needed to carry out the

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[14] Ibid., p. 64.

[15] Ibid., p. 69.

[16] Ibid., p. 119.

experiment; and we are controlled by the test at the end of inquiry. Controlling takes place in the various phases of inquiry and is complete when a successful consequence is reached.[17]

The theoretician in searching for the solution of a problem is controlled by the facts surrounding the problem. Some of the facts or data may be irrelevant, in which case they are discarded. The scientist as laboratory technician provides the facts for theory, even those facts without apparent relevancy to the problem. The laboratorian is controlled by the suggested solution in constructing his apparatus and in organizing the experiment; the experiment tests the solution proposed in theory. The theoretician must solve the problem, and the laboratorian must test the solution to the same problem. In Dewey's words:

> Experimentalism in science does not mean that every theory has to be such that it can be put to the decisive laboratory test immediately, or in its first formulation . . .. The only requirement fundamental in experimentalism, whether in philosophy or science, is that any solution to be acceptable as a solution, as a piece of scientific knowledge, must first pass the laboratory test. Only when at last it does or does not pass a decisive test, is it to be accepted as a known solution or rejected because known not to solve.[18]

It may seem that Dewey is using theory and solution synonymously, but he is not. A solution is a component of a theory for Dewey, as is a suggested solution--a solution becomes the solution of the problem with which the theory is concerned. The theory becomes the theory when

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[17] Ibid., p. 124.

[18] Ibid., p. 123.

the problem is solved by the solution, validated by the experiment, producing the consequence which is of a practical use.[19]

An experiment may be carried through to completion by one person, but more often in contemporary research, a theoretician delineates a problem and produces theories for direction to expectation of the solution. The laboratory physicist or technician does the experimenting. Dewey calls this a "social division of labor, not a separation of the one activity from the other."[20] The productivity of modern scientific method is dependent upon the interactive union of both the theoretician and the laboratorian. The continuous interactivity gives continuity to scientific activity, and direction is given to the continuity by experimentation, which is control. Experimentation is the final authority for testing theory and for affirming validity of the formulation. Dewey says, "The method of modern scientific inquiry is the method of experimentation: the functional integration of theory and practice."[21] The integration of theory and practice requires procedural organization. The procedural organization itself may be an experiment. The point is that an experiment is an organization of interactions having a beginning which leads to a consequence. Perhaps Dewey would designate interactions without thoughtful organization as happenings.

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[19]It is becoming evident what Dewey's theory of a theory is, and it will be discussed in the chapter on education.

[20]Joseph Ratner (ed.), Intelligence in the Modern World: John Dewey's Philosophy, p. 111.

[21]Ibid., p. 114.

Dewey says that "within every experiment there are instruments and material, something used as the means of inquiry and something inquired into."[22] In nature, all actions are consequences of interactions of various complexities of organization. Whatever the objective is, on the part of the experimenter, determines the material for the experiment, and all else constitutes the instruments for experimentation. Everything in the contextual whole--material--is undergoing inquiry by means of the instruments. The consequence of the interactivity of the instruments and material within an experimental contextual whole is the end of an inquiry, and it is the consequence that is known.[23]

Whatever answer an individual gives as to what an experiment is for, it is fairly obvious that experimentation in certain areas of civilization is responsible for any apparent progress that has developed in those areas. Without an understanding of possible consequences, which are disclosed by experimentation, it would be difficult to determine the most beneficial consequence and to act on it.

> . . . There is no such thing as genuine knowledge and fruitful understanding except as the offspring of doing. The analysis and rearrangement of facts which is indispensible to the growth of knowledge and power of explanation and right classification cannot be attained purely mentally--just inside the head. Men have to do something to things when they wish to find out something; they have to alter conditions. This is the lesson of the laboratory method and the lesson which all education has to learn.[24]

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[22] Ibid., p. 149.

[23] Ibid., p. 151.

[24] John Dewey, Democracy and Education (New York: The Macmillan Company, 1916), pp. 321-322.

III. NATURE

> Nature is an inclusive history of multitudinous ongoing histories, the comprehensive interactive continuum consequent upon the interactivities of an infinite number of interactive continua of an indefinite number of general kinds.[25]

The above quotation reduced to simple terms means in part that nature is a continuum of events and each event is an interaction of its predecessor. A causal relationship produces other causal relationships; the effect of a cause is itself a cause for other effects, which in turn are causes, and ad infinitum. "Whenever there is interaction there is also continuity," says Dewey, and he may be correct. For an interaction to take place there must be actors--material and instruments. All is material, but in an experiment the position the different materials have designates that some be given the role of an instrument; the material is acted upon by the instrument. In life, man plays both parts, as does environment; and the changes that result on either one are essentially changes in nature, as both man and his environment constitute nature. Nature itself is continuous and is thus in a constant "state" of interaction. It is up to the experimenter to identify specific interactions and the consequences along the continuum. Nature, as a whole, is composed of continua, and each line is capable of interacting with another. For example, two societies may interact, and when they do, disorder may erupt; and as disorder gives way to order, a new stable organization--

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[25]Ratner, op. cit., p. 152.

a new society--is the consequence. The "new society" that evolves may be of a higher quality or of a poorer quality than either of the two societies which entered into the interaction. As all evolution is either a regression or a progression, the consequences are not always predictable. In any genuine experimental situation, the outcome is problematic.[26]

Dewey says, "Inquiry proceeds by making distinctions and every distinction is also a connection."[27] Inquiry is a proceeding, a history, within the procession of nature and, as such, it makes differences within nature. The changes that inquiry makes are within the localities where inquiry takes place. "Experimental inquiry is a procedure that works within and while the processes inquired into are going on."[28] Inquiry is instrumental in bringing about some changes within a process within nature. Nature itself is the instrument for its changes, and it is in nature that man--the philosopher or scientist--finds the instruments for his experimentations, highlighting his experiences.

IV. SOCIETY

Society is a framework fabricated by man for control of human interactions. The various combinations of interactions result in changes of complexion or attitudes of the individual and society.

> Society is of course but the relations of individuals to one another in this form and that. And all relations are

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[26] Ibid., p. 158. [27] Ibid., p. 162. [28] Ibid., p. 164.

> interactions, not fixed molds . . .. An institution that is other than the structure of human contact and intercourse is a fossil of some past society; organization, as in any living organism, is the cooperative consensus of multitudes of cells, each living in exchange with others.[29]

Individuals think, desire, and propose; and these human acts have consequences upon others and upon the individual acting. Where the consequences of an act are found determines the distinction between private and public. If the consequences of an individual act are contained within the single actor, then the act is a private one; but if others are involved in the consequences, then it is a public act. It is difficult to visualize any human act that would exclude everyone else from its consequences. Eating, sleeping, and dying could be considered individual acts affecting only the one engaged in the function. Such consequences are immediate and momentarily private, but others may be quickly drawn into the consequences. The consequence of an individual death, obviously, usually affects others.

Dewey gives the term "private" an additional meaning. For him an action between two people--for example, a conversation that does not extend beyond the limits of the two people concerned--is private. The act acquires a public capacity when the consequences of the conversation extend beyond the two speakers. For Dewey, the distinction between private and public is not equivalent to the distinction between individual and social. He says, "Many private acts are social."[30] The private character of an act has no connection between its nonsocial or

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[29] Ibid., p. 413.

[30] Ibid., p. 368.

antisocial character; any act may be nonsocial or antisocial, depending on the direct or indirect consequences of the activity.

> . . . The line between private and public is to be drawn on the basis of the extent and scope of the consequences of acts which are so important as to need control, whether by inhibition or by promotion.[31]

The need for controlling acts by others and ourselves gave rise to the social institution, government. Government, then, ideally, is an instrument for arriving at desirable and useful consequences for its participants. If this is true for government, would it not also be true for all the institutions of society? In answering the question, one must keep in mind that what is desirable or useful in one institution is not necessarily desirable or useful in another group, as each group is composed of individuals who have their own individual wants. These individual wishes collectively are reflected in the image of the institution.

A man may, and often does, belong to a number of institutions, each one having its own "society," subculture, or group. The term "society" in this discussion includes all institutions. Dewey says, "It is the nature of society as of life to contain a balance of opposed forces."[32] It is also the nature of human society to contain people; some are humane and many are inhumane, but it is generally agreed that in either case one's behavior is learned.[33]

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[31] Ibid., p. 369.

[32] Ibid., p. 407.

[33] The words "humane" and "inhumane" were deliberately used to differentiate between the "good" and "bad" characteristics implied in the word "human." It is evident that Dewey would prefer that all humans, therefore society, would have only "good" characteristics.

> To learn to be human is to develop through the give-and-take of communication an effective sense of being an individually distinctive member of a community; one who understands and appreciates its beliefs, desires, and methods, and who contributes to a further conversion of organic powers into human resources and values.[34]

Although such a translation is never finished, education should function towards the development of a person into a distinctive individual, ready with his contributions to society. In most cases, education appears to be doing an adequate job.

Dewey outlines some problems that society must solve. A society needs to provide for and maintain the following "freedoms" for every individual.

1. Freedom of social inquiry and of distribution of its conclusions.
2. Freedom of expression.
3. Freedom of intelligence to direct and to warrant freedom of action.
4. Freedom from suppression.
5. Freedom from oppression.
6. Freedom from exploitation.
7. Freedom from poverty.
8. Freedom to enjoy self-respect.[35]

A society failing to provide adequate--prompt, forceful, and equitable--control to prohibit the loss of any one of the mentioned freedoms is a

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[34]Ratner, op. cit., p. 389.

[35]Ibid.,pp. 394-404.

decadent society. Education can and should help society help itself fulfill its role. The condition of total freedom--

> . . .must be fulfilled if the Great Society is to become a Great Community: a society in which the ever-expanding and intricately ramifying consequences of associated activities shall be known in the full sense of that word, so that an organized, articulate Public comes into being.[36]

This is the Challenge Dewey makes to Democracy, but it is up to education to provide the means for the Great Society; "means" in this sense does not mean money--it means the development of latent abilities or capabilities within individuals, enabling them to contribute to the well-being of society.

Knowledge, inquiry, experimentation, nature, and society, all are instruments for whatever endeavor man undertakes. Each endeavor is a new experience in the continuum of the life of one man or of the history of education to provide opportunities and direction for beneficial or practical experiences.[37] The point is that man finds many of the instruments for his experiments in nature and that each experiment is, in itself, an experience.

V. SUMMARY

Dewey's philosophy has as its foundation the philosophy of the experiment derived from his analysis and evaluation of experiment.[38] In

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[36] Ibid., p. 399.

[37] Ibid., p. 668.

[38] Ibid., p. 58.

any experiment, material and tools or instruments are needed. and in inquiry, testing for the consequence of a solution is required. According to Dewey, any source of material or instruments--nature, society, knowledge, history, or experience--may be instrumental in completing an experiment. An experiment itself may be used as an instrument for further experimentation, that is, man may use anything he chooses as an instrument to further his purpose of gaining knowledge.

Such a broad interpretation of instrumentalism, although it includes the function of thought, is untenable, and experimentalism is the label used to describe Dewey's philosophical efforts. Instrumentalism, more commonly, means that the function of thought is instrumental in controlling man's environment and that the value of an idea is found in its function in human experience.

experience--the point of origin, of inquiry, of scientific investigation.[3] In other words, the subject-matter of primary experience sets the problems and is the first data of the reflection which constructs the secondary objects, for the sciences. The primary experience is an experience having a minimum of incidental reflection; the secondary objects are the product of continued and regulated reflective inquiry. It is from systematic thinking and observing that secondary objects are derived and experienced.[4] A simple example will help to clarify Dewey's remarks about a primary experience and secondary objects. Suppose one is strolling through a garden; the walk in the garden is the primary experience and includes everything that one would normally expect to find in such an area, including a rustle of some ground covering. The motion in the shrubbery gives cause for reflection and leads to an investigation as to what and why the motion occurred. Whatever is discovered by observation or reflection Dewey says constitutes the secondary objects of the subject-matter--motion in the ground covering--of the primary experience. Test and verification of secondary objects are secured by the return to things of crude or macroscopic experience.

"Experience" once meant the results accumulated in memory to be available in dealing with the present situation. Such past doings were

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[3] Ratner, op. cit., p. 116.

[4] Ibid., p. 1044.

CHAPTER IV

EDUCATION

I. EXPERIENCE

> A primary responsibility of educators is that they not only be aware of the general principle of the shaping of actual experience by environing conditions, but that they also recognize in the concrete what surroundings are conducive to having experiences that lead to growth. Above all, they should know how to utilize the surroundings, physical and social, that exist so as to extract from them all that they have to contribute to building up experiences that are worthwhile.[1]

Experience is what, Professor Paul Weiss says,

> . . . some writers, cooped up over their typewriters pounding out words, tell us that we should have, but who do not know what it is to have an experience. To have an experience is to live, tasting all that life has to offer.[2]

For Dewey, experience is the element of life in which all aspects of life are contained, even inquiry and experimentation. From whatever subject-matter in primary experience one starts an inquiry, one starts from that subject-matter because it raised a problem; and whatever the solution is, it must lead back into the subject matter of primary

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[1] Joseph Ratner (ed.), Intelligence in the Modern World: John Dewey's Philosophy (New York: The Modern Library, 1939), p. 668.

[2] During the spring quarter 1968, Dr. Paul Weiss was a guest speaker on the campus at The University of Tennessee. It was during a seminar held for philosophers and students that he made the remark referred to above. His subject was Metaphysics.

often without control or insight.[5] Experience was thus thought by the ancient Greek philosophers to be inherently inferior to rational science, inferior because the body, senses, material things, and natural change which were connected to experience, were thought to be inferior to reason or to metaphysical insight.[6] Material gathered from the senses and experience was thought not to contribute to knowledge; the senses and experience were barriers to true science, but the modern scientist created innovations which extended and overcame the defects of the senses.[7] He became interested in the changes that take place; the changes that went on delineated his problems which were solved when changes were interconnected with one another. In the prescientific era, knowledge was sought in the changeless, and it was assumed that higher knowledge was supplied by pure thought--thought apart from experience.[8] In experimental science, knowledge is sought through the deliberate, definite, and specified course of change. Change is introduced and relationships are determined and correlated, resulting in the desired object of knowledge. That "science advances by adopting the instruments and doings of directed practice . . ." is a point stressed by Dewey.[9] The knowledge gained by direct practice brings nature closer to potential service of human purposes and valuations.[10]

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[5] Ibid., p. 313.

[6] Ibid., p. 314.

[7] Ibid., p. 115.

[8] Ibid.

[9] Ibid., p. 317.

[10] Ibid.

Every experience is a moving force, and life is a continuum of experiences.[11] Life is not one big experience, but life is experience ever changing; no one phase of life is isolated from another. From the individual's birth to his death an evolution of experience is in progress involving past experiences, nature, and the experiences of others--interactions.

One might ask why "one" experience stands out more than "another." Could it be that the vividness of any one experience is due to the degree of one's involvement with or awareness of the moment's uniqueness? A man mowing his lawn, for example, stoops down and picks up a rock, throws the rock aside, then continues to cut his lawn. The experience of removing the rock from the lawn quickly fades into obscurity. Suppose the same man, in mowing his lawn hits a rock with his mower and the stone is propelled with such force that the rock breaks one of his fingers--the man will remember the experience of his broken finger and how it happened much longer than the experience of removing a rock. He was more sensuously involved. Although the above example illustrates an experience with an inanimate thing, it also applies to human relations. The more involved one becomes in his interactions with others the more vivid the experience; and if the experience is one of amenity, then it will be a rewarding one for each person involved. Dewey says, "Experience in the degree in which it is experienced is heightened vitality."[12]

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[11] Ibid., p. 666.

[12] Ibid., p. 962.

An experience has a unity that gives it its name, such as that wreck, that cad, or that dinner. A single quality that pervades the total experience signifies the unity of an experience, i.e., one dominant property characterizes the whole of the experience. Some of the properties of an experience are intellectual in review, but during the actual occurrence they were emotional, purposive, and volitional. These different characters lose their distinctive traits in retrospection. A thinker is rewarded by total integral experiences that are intrinsically worthwhile.

Man grows and develops through experiences--hopefully, the beneficial kind. Experience,

> . . . when dominated by the past, by custom and routine, is often opposed to the reasonable, the thoughtful. But experience also includes the reflection that sets us free from the limiting influence of sense, appetite, and tradition. Experience may welcome and assimilate all that the most exact and penetrating thought discovers. Indeed, the business of education might be defined as an emancipation and enlargement of experience.[13]

We speak of an experience as a unit with a beginning and a terminus, but "an experience" is only a segment of the continuum abstracted from life or history--which in itself is an experience.

II. ABSTRACTION

> Abstraction is an indispensable element in even ordinary thinking. It is found in analysis, in all observation . . . the logical value of abstraction consists in seizing upon some quality

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[13] John Dewey, How We Think (Boston: D. C. Heath and Company, 1933), p. 201.

> or relation not previously grasped at all, making it stand out . . .. Abstracting gets the mind emancipated from conspicuous familiar traits that hold it fixed by their very familiarity.[14]

The intellectual transition from concrete to abstract is a change in the realm of a thing. Dewey says that "things are concrete to us in the degree in which they are either means directly used or are ends directly appropriated and enjoyed."[15] To support his idea of the concrete, Dewey used the example that mathematical ideas are "concrete" when used for measuring, building, or selling; but when they are freed from connection of application or use they remain abstract. It is, of course, the use of ideas in the abstract that leads to formal logic. Abstraction from use was coincident with the formation of a science of ideas.[16]

An idea freed from existential use is subject to a fallacy, according to Dewey, for an idea is a plan for action. It would be like perfecting a tool independent of its application. He prefers to make the distinction between concrete and abstract as one "between operations to be actually performed and possible operations as such, as merely possible."[17] The empirical evidence for the accuracy of Dewey's description of the relationship between concrete and abstract may be found in the example of an inventor or innovator. A man working and thinking about his work discovers that there might possibly be a better way of doing a task. Ideas flit through his mind which are assimilated,

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[14] Ibid., p. 871.

[15] Ratner, op. cit., p. 871.

[16] Ibid.

[17] Ibid., p. 872.

manipulated, rearranged, and shaped into a tool--something unlike that which was available before the act of abstraction began. If the tool is not fabricated and put to use, that is, not brought into a concrete state, then the act of abstraction would be useless. Man, the creator, in his thinking goes from the concrete to the abstract to the concrete. The inventor, however, rarely thinks of his act of innovating, or the designing of a thing, as having any relationship to the abstract. If there were not a relationship between the concrete and the abstract, man would have but very few inventions to his credit. The concrete end is the coming into existence of the abstract. Perhaps another example will make clearer the relationship between the concrete and the abstraction. There is need, let us say, of a bridge--the concrete; the idea for a bridge takes shape in the mental processes--abstraction; and the design is laid out on paper--a "moment" of transition from the need of a bridge to the existence of the bridge; the bridge is erected--concrete. Dewey's point is that to think in terms of possible operations irrespective of actual performance places no limits to development except human ingenuity.[18] This point at first appears to contradict what Dewey said about an idea freed from existential use being subject to fallacy, but a closer look discloses that Dewey means an idea is not related to anything without becoming concrete or without being made a symbol. The idea is freed from a specific existential use by the symbol which may be used for a number of existential applications, for example, the symbols of

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[18] Ibid., p. 875.

mathematics, chemistry, physics, and logic. Any group of symbolic operations suggests further operations of ever-increasing definiteness and comprehensiveness, but the consequence of such an operation transforms the abstract into the concrete unless the operation is another symbolic manipulation.[19]

> Abstract thought is imagination seeing familiar objects in a new light and thus opening new vistas in experience. Experiment follows the road thus opened and tests its permanent value.[20]

III. THEORY

Traditional empiricism insists that knowledge is dependent upon perceptual material; historical rationalism holds that only conceptual subject-matter is capable of providing knowledge. Each theory of knowledge has advanced on the weakness of the other. The extreme immediatism (meaning that the immediately given consists of qualitative, independent, and discrete units) of traditional empiricism and the denial of the reality of relations led to modern rationalism which selected the relational function and made relations the center and heart of all knowledge. "The presence of Relations in knowledge was attributed to the synthetic activity of thought as an independent factor."[21] The difficulty of

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[19] Ibid., p. 875.

[20] Dewey, op. cit., p. 202.

[21] John Dewey, Logic: The Theory of Inquiry (New York: Henry Holt and Company, 1938), p. 517.

rationalism to account for the presence of elements to be related transformed rationalism into idealism.[22]

Traditional empiricism engaged in an unqualified and particular selection of perceptual material. "It held that the immediately consists of qualitative discrete atoms that have no intrinsic connection with one another."[23] In other words, what is thus immediately given in experience has no connection with other discrete units. It was up to rationalism to provide the relation, which it did, by selecting the relational function and making relations the center and heart of all knowledge. But it could not provide for that which was not rational.[24]

According to Dewey there are three types of Idealistic theories of knowledge; they are the perceptual, the rationalistic and the absolutistic. Knowledge for perceptual idealism depends upon the discovery of the relation between what is perceived, empirically, in the content of experience and universals, such as essences, objectives, and things that are independent of cognitive subjects. The rationistic idealism theory of knowledge is dependent upon thought. In thought, the ideal is formed--"the real world consists of a system of relations which are of the nature of an objective comprehensive Mind or Spirit . . . ."[25] Knowing consists in the reproductions of the constitution of the objective mind--the conceptual ideated. Both the perceptual and rationalistic idealism depend on idealistic ontologies; the perceptual has the

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[22] Ibid.

[23] Ibid.

[24] Ibid.

[25] Ibid., p. 529.

Universal and the rationalistic has the Mind or Spirit--therein is the difference. Both draw from the empirical an object of perception, but both deny it. The relation of material to the Universal is dependent upon what is perceived and thought is empirically ascertained through the actual operation of inquiry--it is not a priori.[26]

Absolute Idealism represents an attempt to overcome the division between perceptual and rationalistic theories by reference to an experience in which the two are completely fused, an absolute experience.[27]

> The Absolute which is the Unconditioned Whole, the object of knowledge . . . and the goal of human knowing is . . . a complete interpenetration and interfusion of the elements of the immediate and of the conceptual and reflective.[28]

The elements of the immediate are taken to mean that which is represented by feeling and sensory qualities. Dewey points out that reflection from the point of view of Absolute Idealism presupposes an all-inclusive experience--an Absolute Experience. In the Absolute Experience, there is no distinction between the immediate and the mediate. The material content of the ultimate whole, which is reality, is inaccessible to man; man "knows" only by means of judgment. Judgment is reflective and mediate. It proceeds in terms of relations, and a relation implies both distinction and connection. There is, according

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[26] Ibid., p. 530.

[27] Ibid., p. 526.

[28] Ibid., p. 532.

to Dewey, no way of obtaining the required goal of final unification in Absolute Idealism.[29]

It would seem that for Dewey, the absolute is found in the experience. What is, is absolute. That one cannot describe in toto all the characteristics, components, elements, facets, origin or end, is not to imply that an experience is a facsimile of the ultimate or of the absolute which "exists" beyond the scope of the present appreciation of communication, but it is to infer that the finite quality of human reason is only capable of description from a particular point of view.

Any theory of knowledge that denies the consequence of operational conditions and consequences of inquiry is structural and ontological, not functional and logical. Competent science begins when instruments are adapted and invented and used for the purpose of inquiry into inquiry. According to Dewey, a theory of knowledge must be "conceived in terms of the operations by which, in the continuum of experimental inquiry, stable beliefs are progressively obtained and utilized."[30]

There are three outstanding traits in experimental inquiry that Dewey uses to construct his theory of knowledge. The first one involves overt action or doing, the making of definite changes in the environment or in our relation to it. The second is that experimental activity is directed by ideas which meet the conditions set by the problem. The

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[29] Ibid., p. 533.

[30] Ibid., p. 534.

third is that the outcome of the directed activity is the construction of a new empirical situation in which objects are differently related and in which consequences form objects that have the property of being known.[31]

Dewey's theory of a theory of knowledge, or any other theory, seems to be that a theory must come from the context of experience and terminate in a "new" experience. A theory infers a problem, suggests a solution to the problem, directs the testing of the solution, and limits the consequences of the experiment to practical use. A theory that has no practical use in the Deweyan sense is not a theory. Every theory must have its solution validated by experimentation, sooner or later.

The following definition of a theory is perhaps a good summation of what Dewey thought a theory should be. A theory is

> . . . the coherent set of hypothetical, conceptual, and pragmatic principles forming the general frame of reference for a field of inquiry.[32]

IV. DEWEY'S INSIGHTS REGARDING EDUCATION

The preceding sections in this chapter relate to Dewey's effort to inform educators about specific areas in which a change of perspective was needed. It is obvious that the same could be said about

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[31]Ratner, op. cit., p. 336.

[32]Author unknown. Taken from notes on a lecture given by Dr. Robert S. Thurman in a class on Higher Education at The University of Tennessee in 1967.

Chapters I, II, and III, but unless one understands that experience, although it can be unitized, is integral with life--a continuum--that abstraction is dependent on experience--as is theory--and how different theories of knowledge affect education, then there would be no practical advantage in exerting effort to bring education into a system.

> The art of education is one in which every person is compelled . . . to take an interest, because it so imtimately concerns his own conduct . . .. Professional education has its results limited and twisted because of the general state of education. . . . Its improvement cannot be made secure merely by better training of teachers. . . . Taxpayers have the last word . . . that word is dependent upon their education . . .. Those who receive education are those who give it; habits already engendered deeply influence its course. It is as if no one could be educated in the full sense until everyone is developed beyond the reach of prejudice, stupidity, and apathy.[33]

Education is caught going around in a circle from which complete escape may be impossible. To escape, education needs to create, within its domain, activity with sufficient momentum to break its circular path. Dewey suggests that the first order of activity is to stamp out the notion that mind and body are separate entities, an idea that is incarnate in religion, morals, business, science, and philosophy. The reunion of philosophy and science is needed for a full realization of the integration of mind and body in action.

"Self-activity," the ultimate educational ideal, has had little influence on practice because its interpretation has been too formal, that is, it has been restricted to activities of the mind without

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[33]Ratner, op. cit., p. 605.

concern for the physical manifestations of thought; it must be taken to include all goings on that involve growth of power.

Age, native endowments, prior experience, social opportunities, and many other circumstances determine the kinds of activities that are true educative interests. Each thing that one learns seems to bring on a need to learn something more. Physically, the infant learns to crawl, and this leads to the need to learn to walk. He learns to eat, by his own efforts, and he then needs to learn how to discriminate between wholesome and unwholesome foods--between meat and mud pies. When a person "learns" that he has ideas he has need to learn how to use those ideas by manipulating his hands, lips, and tongue--or tools. Physical activities grow with "mental" activities in scope and intensity or proficiency, not perhaps in a one-to-one ratio but in a relation partially controlled by mental faculties and attitudes, both one's own attitudes and those of others. The point being made is that Dewey insists that it is the whole person that needs to be educated, as it is the whole person that should grow. To develop the mind at the expense of the body or the body at the expense of the mind is to produce a twisted, unbalanced individual to operate within society.

Activity covers all forms of expression and construction with tools and materials that involve conscious endeavor to acheive an end. Activities include everything from the making of mud pies to the selection of materials for scientific inquiry. Activities create interest in materials--materials here include ideas--which under given circumstances lead to intellectual interest. Intellectual interest is most frequently

thought of as a function separate from other interests; but Dewey points out that it is an integral part of all activities, although it may be made either subordinate to the accomplishment of a process or to the dominant interest. An intellectual interest becomes dominant when the activity is instituted for the sake of finding out something.[34]

There is no sharp line between theory and practice for Dewey. He says, "Planning ahead, taking notice of what happens, relating this to what is attempted, are parts of all intelligent or purposive activities."[35] Without practice, there could be no theory since practical activities suggest a theory and further practice will validate, discredit, or provide data to modify the theory. Each is dependent upon the other. One cannot have a theory without having a basis for a theory. Educators should be alert to encourage the development of intellectual phases of activities which arise from the student's practical interests. The teacher may direct such intellectual activities into theoretical activities. The condition of the student's expression of his practical interest may enable the teacher to lead the student by encouragement, to reflective thought evoking a transition to theoretical activity.[36] Interest starts from the practical activity, goes to the theoretical activity, and back to the practical activity. It does seem, however,

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[34] Ibid., p. 613

[35] Ibid.

[36] Ibid., p. 614.

that interest can be arrested in either the practical realm or the theoretical realm resulting in a prosaic person or an intellectual oddity. A theory, like an invention, is worthless unless it is practical. Both may work at the moment of their formulation, but it may take some time to prove their practicality.

V. THE EFFECT OF THEORIES OF KNOWLEDGE ON EDUCATION

There are many theories of knowledge which have had an effect on education during the past sixty years, but this section will discuss only a few. Remnants of these few theories persist in competition with many of Dewey's ideas.

Logical positivism which is the offspring of traditional empiricism declares that science has all the important answers and that which cannot be verified empirically is meaningless, excepting logic and mathematics. The primary goals of education should be the development of competence in the techniques of science. Man should accept science as the one true source of knowledge. Science reveals the best way for man to think, but science cannot give us knowledge about values, since statements about values are neither empirical nor analytical. Hence values should not be the concern of education. The logical positivist insists on clarity of thought, precision of language, consistence of reasoning, and rationality of behavior, all of which are beneficial

elements to the process of education, but the idolization of the sciences could be detrimental to society.[37]

"New Realism," which is perceptual idealism modified, teaches that reality is in this world--reality exists independently of man and is not a figment of the mind. The physical world is reality. The real world is interpreted through the senses and may be discovered by man through the scientific method. In experience and by scientific endeavors, one finds the answers to all problems and truth.

Truths are natural laws which govern the operation of the universe and man; all truths are in existence. They are found in the external, final, and fixed world of experiences--in the universe which is orderly.

"New Realism" established for man the orderly universe, the source of reality, and the source of truths but the transmission of this knowledge is the function of education. Therefore, education needs only to prepare man to accept his inevitable lot, that of being controlled by the laws of the universe. The task of education is to help man adjust to his environment. It should teach the laws of nature and moral laws. Education should dispense practical knowledge. The student is a functioning organism, and through his sensory experiences the natural order of the world is perceived. Facts predominate and lead to expertness.

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[37]Orin B. Graff, et al., Philosophic Theory and Practice in Educational Administration (Belmont, California: Wadsworth Publishing Company, Inc., 1966), pp. 156-160.

Education supposedly pours into the student the facts, and nothing but the facts, and thereby producing an expert--a catalogue.[38]

The nature of education according to idealism, idealism in its multiplicity of faces, is to be selective, that is, to select only the mental elite and wash their brains with ideas. Idealism is the belief that reality is of the nature of mind or idea. Our world of ideas is the real world. Some philosophers believe that there is a perfect world of ideas reached only through the mind and only by a few people. The ideal world contains ultimate truth, ultimate value, and ultimate ideas, all of which are unchanging, stable. To know these ultimates is to rely on intuition, revelation, or "divine" reason. They are innate, a priori, within the mind ("soul") of man. The pursuit of them transcends the world of experience. Idealists recognize the absolute moral law, and that "true moral values are a quality of the mind, self, conscience--the seat of all things universal in life.[39] The Idealist values, it is claimed, are never in error. Reason is supreme, and it, pure reason, explains everyday experiences.

Education in the "classical tradition" is idealistic. The assumption that man is a dualistic creature and that all of his institutions are in actuality dualistic produced the imperative "develop the mind." The idealist cries aloud and long to "seek knowledge for the sake of knowledge"; to educate the "haves" so that they may find truth; to train the "have nots" so they may use the truths discovered by the "brains."

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[38] Ibid., pp. 122-127.

[39] Ibid., p. 112.

Only the faculties of the mind can be educated. Only those facts that conform to reason are right--" I am right, you must agree with me: I have reasoned; I am the authority." The idealist dogmatically claims to have established the correct relationship between facts and reason. He also established the man-to-man relationship--"I am right, you are wrong." He believes that the developed mind can solve all of life's problems. It is up to education to discover the mind which can be developed and to train it for the highest intellectual endeavors, the discovery of truth. Each man must be put in his "place" by education.[40]

Another theory of knowledge is Pragmatism, and though the major propositions of John Dewey's experimentalism are to be found in Pragmatism, here we shall discuss Pragmatism in general.

> Pragmatism holds that the real essence of ideas is to be found in their utilization as guides to action and behavior. That is, the meaning of an idea is to be found in how the idea operates when it is put into practice. Truth can be known only through its practical consequences.[41]

Pragmatism, then, is a method of determining the meaning of ideas and concepts. As creation is continuous and is not a fixed universe, there are no absolutes. The universe is constantly changing and in motion. It is impossible to gain knowledge of ultimate reality as there are no ultimate truths. Truth is created in the process of experience--man's interaction with nature--and true ideas are those which intelligence discovers to be serviceable in man's interaction with nature.

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[40] Ibid., pp. 102-116.

[41] Ibid., p. 166.

Many pragmatists argue that man is a part of nature and continuous with it. Mind and body are integral parts of an evolving organism. Man is both a singular and a plural being. He is a product of nature and a social being. Man cannot develop in isolation, he needs social contacts. In society he has unlimited possibilities. It is from man's interaction with others within society that he derives his values. Society evolves as the needs of man evolve. Man is the master of the institution, society; it serves him.

Education's purpose, according to the pragmatist, is the development of the whole man. Man is helped to develop basic dispositions--intellectual and emotional--toward institutions, the physical world, and his fellow men. Science, a component of education, is an instrument to help man act and to think clearly and objectively. It helps man reconstruct and reorganize his experiences. The "whole"--psychological, biological, and social--person needs to grow, and in growing, the person learns to solve his own problems and those of society.[42]

As each "new" philosophy evolves from its predecessor, because of their discovered inadequacies, it endeavors to sustain itself, and this it does through the contemporary educational systems. It might even set up its own school. In a democracy, due to freedom of thought, it is much easier to have conflicting philosophies competing for supremacy. Whatever the philosophy is that fills the "chair"at a university, it

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[42] Ibid., pp. 173-180.

will cast its shadow over the surrounding community. An institution of learning can become wracked by conflicting ideas of what and how to teach. Dewey, having been raised under the "classical" system of education, recognized that each philosophy is correlated with the social conditions of its inception and that our democratic society was beginning to feel the need for a philosophy that would fit its own dimensions. The transitions that our nation went through from a pioneer to an agricultural society and to an industrial revolution were made possible by education shaped by the "old country" standards and philosophies. As this country began to enter the scientific age, producing new ideas about man, his environment, and his destiny, the institution of education began to develop numerous problems, many of which remain unsolved. A new philosophy for a democratic society was needed. Pragmatism was delineated. Many of the concepts of pragmatism came from the depths of history but were given a new application, e.g., "man is a social animal." But what is the significance of man's being a social animal? What is his function in today's society? In history, "old" ideas take on a different import at different points in the continuum of society, but in a democracy "old" ideas are usually cast aside, after a struggle, and are replaced by "new" ones or by old ones applied differently. The confusion in education that existed at the time our democracy was undergoing a transition from the industrial complex to the age of scientific effort prompted Dewey to analyze the situation and to offer his brand of pragmatism, experimentalism, as a course for educators to pursue and thus contribute to the growth of the democratic society. The fact that

education even today is still stumbling about is not due to lack of direction or directors but is due in part to misinterpretation of the direction education should go. Certainly other factors are involved, such as the vestiges of antiquated techniques of educating people, political and economic factors, inadequate facilities, population increases, social pressures, lack of knowledge about the learning process, lack of knowledge as to why educators themselves are in conflict, and as to why students do not relate to education in the manner usually prescribed by an institution. All these factors are only symptoms of the disease afflicting education. The disease is man's not understanding himself, his interactions with others and his interrelation with nature.

VI. THE TEACHER

Dewey compares teaching with selling commodities, which is unfortunate, because no teacher wants to be called a drummer. Few academic citizens would allow their dignity to be spotted with such a simile. However, teachers might be benefited, they might enhance their technique, if they were aware of the "stages" through which a sale must pass to get the order--the end result. The steps of a sale are: attention, interest, conviction, desire, and close. The steps of teaching are attention, interest, desire, conviction, and knowledge. A teacher's proficiency is directly related to his ability to function in each step. Ways to accomplish each step could be a thesis topic.

> Since learning is something that a pupil has to do himself and for himself, the initiative lies with the learner. The teacher is a guide and director; he steers the boat, but the energy that

> propels it must come from those who are learning. The more a teacher is aware of the past experience of students, of their hopes, desires, chief interests, the better will he understand the forces at work that need to be directed and utilized for the formation of reflective habits.[43]

A teacher needs to be genuinely interested in his students and in creating an interest for the discipline and a desire to learn--the teacher must motivate his students. Once the generator is started, the energy will flow.

The teacher himself needs to be a student; he needs to learn how to sustain curiosity in each class member; he needs to study individual traits and habits and the conditions that modify the directions in which individual powers are expressed. He must be aware of individual capacities and the influence the entire environment has on the student.[44] He needs to be the example of a "good" teacher, an example of the mental habits he is advocating that the student learn, and an example of the moral virtues requested by society. Imitation is a potent force in the acquisition of knowledge. John Dewey said, with emphasis:

> Everything the teacher does, as well as the manner in which he does it, incites the child [student, whether he is a child, teenager, or adult] to respond in some way or other, and each response tends to set the child's attitude in some way or other.[45]

This is another way of saying that an organism and its environment interact. The teacher is part of the student's environment, and the

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[43] Ibid., p. 615

[44] John Dewey, How We Think, p. 57.

[45] Ibid., p. 61

reverse is also true; and a desirable interaction is dependent upon the successful efforts of the teacher. This seems to put a great burden on the teacher, but that is where the burden should be placed, even if the student is his own teacher. The educational institution is a contrivance for bringing the learner and the teacher together; it supplies the facilities and materials necessary for a teacher-student relationship to develop. Students as well as teachers work to reach rapport, but students have a tendency to try to satisfy the teacher.[46] It has often been said, "To pass a course, it is best to study the teacher and not the subject-matter," and many teachers unknowingly subscribe to that for two main reasons: They themselves followed such advice by not having had a "good" teacher example, and secondly, they have never learned how to put self in the background or to forget self in their teaching. To put the teacher first, subject-matter second, and relegate self to an obscure position is a difficult task for all but the excellent teachers.

A teacher alive to the modes of thought operative in the natural experience of a child will see that the problem of intellectual education is the transformation of natural powers into expert and tested powers, i.e., to change curiosity, which is natural to a child, into attitudes of alert, cautious, and thorough inquiry. The student needs to be helped to establish some kind of intellectual organization on his own present level.[47] The enthusiastic teacher will communicate sufficient topic matter to encourage, not discourage, contributions from the

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[46] Ibid., p. 61.

[47] Ibid., p. 84.

students. He will persist in getting the learner to develop for himself the reasonableness of his own account--to justify his contributions to the topic.[48] The born teacher will "instinctively know" how to lead a student away from the fear of a new undertaking and will refrain from instilling fear in the pupil; he will allow the student to build on his successes and to overcome his failures with a minimum of psychological scars. Perhaps many of the people who are classed as utter failures are the product of successive failures in the minor issues of life in the formative years. It could be that failure to have constructive interactions with others, even with teachers, has contributed to some suicides. The immediate self-image, externally or internally produced, is fundamental in future behavior, and as the teacher's position is one of leadership, he should assume a great deal of the responsibility for leading his students into healthy self-images.

The teacher is the leader in a microcosmic society by virtue of his wider, deeper knowledge and his mature experience. That as a leader, he "must have his mind free to observe the mental responses and movements of the student members of the recitation-group" is a point that Dewey emphasizes.[49] Bodily expression is a clue to a mental condition or attitude. The teacher needs to be sensitive and alive to states of puzzlement, boredom, feigned attention, the dawn of an idea,

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[48] Ibid., pp. 270-1.

[49] Ibid., p. 278.

egotism, the meaning of all word expressions; he has to be a student of the student, if he is to keep alive the student's desire to go on learning.

A teacher will supply himself with the many tools available to help himself help the student, such as knowledge in various subjects, including human relations. He will be willing to innovate and use innovations, to try what has worked for others in teaching situations. He will demonstrate that he himself is an example of what he hopes the students will evolve into--a thinker, a reflective thinker.

The humane teacher will understand that natively and normally the personality works as a whole in all of a person's experience. The integration of character and mind calls for the fusion of the intellection and the emotional, of meaning and value, and of imagination and desired possibilities.[50]

VII. EDUCATION: A PROCESS

"Education is a constant reorganizing or reconstructing of experience"; its end is the "direct transformation of the quality of experience."[51] Education "renders its subject capable of further education, more sensitive to conditions of growth and more able to take advantage of experiences."[52] All that one acquires in the process of education are marks of growth and the means for continued growth.

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[50] Ibid., p. 278. [51] Ratner, op. cit., p. 627. [52] Ibid., p. 628.

This would lead one to assume that the more one knows the more one can know. This may be a truism, as the knowledgeable person, in comparison with the less knowledgeable one, has more possible relationships available to explore or lead to the acquisition of more information. Yet, there seems to be an innate limitation with respect to the amount or the kind of knowledge that an individual can obtain. This limitation might be the result of lack of desire, or motivation, or the kind of experiences one has had.

Each experience tends to blend into one's future experiences; such experiences constitute one's history and direct his future. This last statement is not to be construed to mean that man's future is determined--determination--by his past; it means that man's future is somewhat dependent upon what man does with his past experience in directing his immediate action, that is, man still chooses what he will extract from his history, how he will use it, and in what direction he desires to go. Education is a process of developing an awareness of life. It may be internally or externally motivated, but it propels man into his future; it is ever-present.

VIII. EDUCATION IS NOT A SCIENCE

Education is an art,[53] and like all forms of art it can be studied scientifically. A systematic study of education can provide answers to questions about teaching; about the subject-matter that will

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[53] Ibid., p. 605.

insure more meaningful experiences for the different types of personalities; about innovations, equipment, and material needed; about predictions that may be safely made as to the success or failure of a given technique of teaching. Such answers would not be rules commanding strict adherence for instruction, but they could be used for tools to assist in teaching, learning, inquiry, and experimentation.

> . . . The existence of science gives common efficacy to the experiences of the genius; it makes it possible for the results of special power to become part of the working equipment of other inquirers . . ..[54]

Dewey makes the point that education is not a science, but that there is an educational science which is found in the minds of those directing educational activities--not in books, experimental laboratories, nor in classrooms. "We must distinguish between the sources of educational science and scientific content."[55]

The educational practices provide the subject-matter, data, or facts which form the problems of inquiry and it is in the area of educational practices that testing should be done. Practices are the source of supply for the problems, but it is from other sciences that the material is drawn which furnishes the content; educational science is dependent on other sciences for the solutions to its problems.[56]

Education is a development within, by, and for experience, and the only authentic means for getting at the significance of our everyday

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[54] Ibid., p. 633. [55] Ibid., p. 639. [56] Ibid., p. 680.

experiences of the world is the scientific method; it provides a working pattern for the use of experiences leading onward and outward ever expanding.[57]

In the following chapter, we will look at some of the Deweyan influences in education in the sixties.

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[57] Ibid.

CHAPTER V

DEWEY'S PHILOSOPHIC VIEWS REFLECTED IN CONTEMPORARY EDUCATION

I. THE GENERAL SITUATION OF EDUCATION

This concluding chapter will focus on the general situation of education today, and an attempt will be made to relate some of what is going on to the comments about education that were made by John Dewey a third of a century ago. The major source for this material is current periodicals, mainly NEA Journal.

> . . . Schools have responded to, and have reflected, social conditions which are themselves in a state of confusion and conflict.[1]

The thirty-odd years since Dewey made that statement seem to have changed the picture very little except that the confusion is wider spread because of more schools and more people. Conflict has become more open and violent as evidenced by the riots in the ghetto sections of our cities, the picketing of schools by parents, and the striking of the teachers for better working and teaching conditions.

The fundamental problem of education is to decide with what movement of social forces, which it in part helped to spawn,

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[1]Joseph Ratner (ed.), Intelligence in the Modern World: John Dewey's Philosophy (New York: The Modern Library, 1939), p. 693.

it shall align itself. The problems of selection and organization of subject-matter of study, of methods of teaching, of school buildings and equipment, and of school administration, are but phases of the basic problem. Dewey suggests that education "select the newer scientific, technological, and cultural forces that are producing change in the old order."[2] An important phase in the fundamental problem, then, will be--

> . . . to develop the insight and understanding that will enable the youth to go forth from the schools to take part in the great work of construction and organization that will have to be done, and to equip them with the attitudes and habits of action that will make their understanding and insight practically effective.[3]

There are many reasons for unrest, confusion, and conflict in society, as well as in education, today, but only a few will be mentioned. For example, Dr. Victor Danilov, Executive Editor of Industrial Research, in his article "Turmoil on the Campus," starts off by saying, "The once-tranquil academic scene has become a hot bed of protest."[4] He gives three principal factors for the turmoil: the expanding volume of research, the increasing dependence upon federal funds, and the growing opposition to the Vietnam war. Danilov points out that universities are moving away from the ivory tower image and are becoming more concerned with the problems and needs of society and the Nation.[5] Dewey might not

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[2] Ibid., p. 694.

[3] Ibid., p. 695.

[4] Victor J. Danilov, "Turmoil on the Campus," Industrial Research (April, 1968), 70.

[5] Ibid.

agree with the three reasons that Dr. Danilov gives for campus unrest, but he would agree that education needs to generate more concern for the problems of society--specifically, that of the relation of individual freedom to social order--and give direction to social change.

Jonathan Kozol, a teacher in Newton, Massachusetts, advocates that the teacher and school administrators should adorn their professional dress with community contact. The professional needs to have human interactions with other members of the community. A stalemate in human relations turns too easily into social tragedy.[6] Dewey would of course have teachers and administrators engage in social activities for greater human interactions and to better understand the background of the students. Dewey says:

> A primary responsibility of education is that they not only be aware of the general principle of the shaping of actual experience by environing conditions, but that they also recognize in the concrete what surroundings are conducive to having experiences that lead to growth. Above all, they should know how to utilize the surroundings, physical and social, that exist so as to extract from them all that they have to contribute to building up experiences that are worthwhile.[7]

Dewey is not just referring to classroom environment but to the total environment of the student; and to know an environment is to interact with it, to observe it from within.

One of the perennial problems plaguing education is a lack of understanding of learning. We have developed many innovations for

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[6]Jonathan Kozol, "Alienation or Interaction?," NEA Journal, 57 (May, 1968), 48.

[7]Ratner, op. cit., p. 668.

learning and have learned, but we do not know for sure how or why learning takes place. The theories advanced for learning have not been very helpful in revealing the nature of learning. James L. McGaugh, professor of psychobiology at the University of California says:

> Most of the significant innovations have been concerned either with the content or with procedures for automating traditional teaching methods; few innovations and varied practices have grown out of basic research concerning the nature of learning and memory.[8]

The work of Dr. McGaugh illustrates the dependency of education on other sciences to provide content for educational science which will in turn provide education with the material for testing practice. An educational science is functioning today, but not in education; basic research has not significantly influenced its practices. The implication is that when education does take advantage of basic science, its progress will parallel advances that have been made by the farmer and the physician.[9] The scientific method of inquiry--which, to Dewey, is the natural, logical, and only way to arrive at knowledge--will probably confirm Dewey's ideas on the biological foundations of inquiry. James L. McGaugh supports Dewey's biological analysis of the human organism when he says, "Learning ability is central to the biological and social evolution of man."[10] McGaugh also points out that when an organism

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[8]James L. McGaugh, "Learning and Memory," NEA Journal, 57 (April, 1968), 8.

[9]Ibid.

[10]Ibid.

responds to a stimulus it first must have "learned" what response to make, i.e., "the response cannot occur unless some learning has already occurred."[11]

Dewey advocated that educators need to change their ways of thinking, and in some areas of education, change has been made. The suggestion made by St. Francis for man "to treat all nature as sacred," has been largely ignored by man, the beneficiary of nature. During the "Age of Reason," man made man and his reason sacred and separated himself from nature, at least in his thinking. Dewey called attention to this belief when he described man as an organism living by means of an environment, not in an environment.[12] Dewey's insistence that a problem comes from the contextual whole and that its solution must be tested in the contextual whole has been given reinforcement by Dr. Carroll Quigley, professor of history at Georgetown University. In his article titled, "Needed: A Revolution in Thinking," he says:

> The cognitive techniques derived from our underlying outlook have included (a) using analysis rather than synthesis in seeking answers to problems; (b) isolating problems and studying them in a vacuum instead of using an ecological approach; (c) using techniques based on quantification rather than on qualification study done in a contextual situation; (d) proceeding on the assumption of a single-factor causation rather than pluralistic, ecological causation; and (e) basing decisions and actions on needs of the individual rather than the needs of the group.[13]

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[11] Ibid.

[12] cf. Chapter 11.

[13] Carroll Quigley, "Needed: A Revolution in Thinking?," NEA Journal, 57 (May, 1968), 68.

It is difficult to change our old methods of thinking, but a new way of thinking is sweeping the West. The traditional Western categories and cognitive assumptions are being rejected and replaced by an intuitive and less logical point of view.[14] This point of view is not based on mystical or occult conceptions. The subject-matter does not come from the power of Reason or Pure Intuition; it is not *a priori*. The illustration Dewey used about a painter mixing pigment will help to clarify the nature of intuition in the "new" method.

> . . . A painter at work upon a picture may decide that there is not enough red in a certain part of the picture to give the desired esthetic effect. He determines *how much* red should be added by "intuition" and trial, stopping when he gets the qualitatively unified whole he is after. He appraises or evaluates the amount needed on the basis of a net qualitative outcome, not by weighing a pigment upon a scale having numerical indices.[15]

The newer, or older, way of looking at experience, discussed by Quigley "tries to find out how everything functions by seeing its relationship to a larger system, and ultimately to the whole cosmos."[16]

That some problems cannot be solved by specialization, isolation, and quantification is a point that Quigley makes, but it is also a point that Dewey makes when he insists on validating an hypothesis by testing for its consequences. Dewey says that those who insist that subject

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[14] *Ibid*.

[15] John Dewey, *Logic: The Theory of Inquiry* (New York: Henry Holt and Company, 1938), p. 204.

[16] Quigley, *op. cit.*, p. 69.

must be reduced to numerical terms--quantity--are guilty of logical error, as are the people who insist on subject-matter being qualitative.

> Both miss the meaning of logical measurement, which is determined by the instrumental reference of quantified propositions to an intended objective consequence.[17]

Dewey called for a revolution in thinking with respect to the traditional method, which is to abstract a problem from its context and analyze its factors. In some areas of society, specifically in some science, Dewey's voice was heard; but in education, his voice was reduced to a whisper, and the cry today is to "kick" over the quantity and accentuate the quality. If we listen to Dewey, we will realize that the synthesis of quantity and quality is found in the contextual whole and that a problem is not solved nor knowledge gained until the consequences of the solution, whether by quantitative analysis or qualitative control is usable or enjoyable.

II. TEACHER EDUCATION

Opinions differ drastically on teacher education, but opinions as to the critical attributes of a teacher are very much in accord with Dewey's ideas on the subject. Arthur Pearl, professor of education at the University of Oregon, lists four attributes that a teacher must have to be an effective teacher.

1. He must have the ability to negotiate a social contract.
2. He must be able to share valuable knowledge and experience.

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[17]Dewey, op. cit., p. 206.

3. He must be "hip."

4. He must become a manager and organizer of complex social organizations.[18]

First of all, a teacher is a human, although some students may disagree and refer to their teacher as a monster or a classroom automaton. Teaching is an interpersonal relationship, and the teacher, by virtue of his position, is responsible for engendering favorable interactions between his own personality and the personality of the student.

The sharing of knowledge and experiences is, again, the responsibility of the teacher. He must sell; he must convince the student of the value of what he is offering. The material must be presented in a coherent, intelligible manner; it must be communicated to the student at the motivational or intellectual stage of the student.

The teacher must understand that the student needs school experiences to grow; the student needs to gain a sense of usefulness by developing the ability to use subject-material in socially approved outlets; and he needs to have a sense of belonging to the class.

The teacher who understands the problems of the youth and is able to organize staff and students in effective social relationships will more readily get the student involved in academic experiences. The

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[18]Arthur Pearl, "We Are Failing Miserably," NEA Journal, 57 (May, 1968), 14.

significance of the experience is proportionate to the degree of personal involvement.[19]

We are failing on teacher education, according to Arthur Pearl, and for reasons obvious to Dewey many years ago. The "teacher" has not learned to create an academic or physical environment conducive to the activity of learning. Education has not integrated theory and practice, as theory is not regarded as useful. Many teachers have not learned that motivation, learning, and perception, and social organization all explain student behavior.[20] Dewey said that the teacher needs to be alive to human tendencies--student behavior.[21]

A changing society needs versatile teachers, as noted by E. Brooks Smith of Wayne State University.

> A routine teacher may have been adequate yesterday, but the schools of today and tomorrow need the inquiring teacher, the innovative teacher, the teacher who can tackle the serious educational problems developing in a society where every child needs an education to survive, whether he comes from the slums or the suburbs . . .. Only a liberal education for inquiry and a clinical professional preparation for teaching produces teachers of this sort.[22]

An education for inquiry might well start with some of the ideas proposed in Dewey's Theory of Inquiry which we examined earlier.

Dewey advocated educating the "whole" person, each person to his capacity. Education should allow for the development or growth of the

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[19] Ibid.

[20] Ibid., p. 15.

[21] cf. Chapter IV, section VI.

[22] E. Brooks Smith, "Joint Responsibility," NEA Journal, 57 (May, 1968), 19.

physical as well as the mental. Manual dexterity combined with mental adroitness creates a more balanced individual. Over the years, some areas of education have incorporated into their systems suggestions made by Dewey. In many universities, Departments of Educational Research have materialized to study the various aspects of education scientifically. Many of the subjects that Dewey included in his philosophy of education, such as encouraging inquiry, and teaching the individual within the context of his total environment introduced into the process of education. In some instances, some or all of these conceptions have failed to produce favorable results, but in many cases the results have been gratifying. Perhaps Dewey would claim that any failure was caused by the use of improper methods.

Technology is one source of assistance education should use. it is now coming into education rapidly. John Henry Martin, Superintendent of Schools in Mount Vernon, New York, said:

> Public education is the last great stronghold of the manual trades. In education, the industrial revolution has scarcely begun.[23]

Technology began slowly and is irresistibly producing profound consequences for education and industry. It is expected that the application of electronic technology will improve the quality of instruction. The main impact of the computer for education, so far, has been to force a

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[23]Charles E. Silberman, "Technology is Knocking at the Schoolhouse Door," Fortune 74 (August, 1966), 120.

great many people from many disciplines to study the teaching process.[24] Education needs to know how paople learn before its teaching can improve.

Charles E. Silberman points out that the schools have failed because of their inability to teach the young how to learn and to stimulate a love for learning in the student. The schools have not been successful in teaching independence of thought and in training the student in the uses of intuition and imagination. Students need greater depth of understanding and greater ability to apply that understanding to new situations.

James Bryant Conant and others have suggested that schools would greatly improve if they could attract and retain more teachers who know and like their subject and their students, and who also like to teach--who know how to teach the hostile, unmotivated, and motivated person.[25]

Many students who are not learning properly can in fact learn, and can learn a great deal, if they are properly taught from the beginning, and those who are learning can more. The native intelligence concept is gradually being replaced, through experimentation, by a new concept that intelligence may be something that is itself learned. Nature does set limits, but very wide limits, to intelligence; "precisely what part of his genetic potential an individual uses is determined in good measure by his environment, which is to say, by his experiences."[26]

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[24] Ibid., p. 122 [25] Ibid., p. 124. [26] Ibid.

As Silberman points out, although the richer the experiences in the early years the greater the development of intelligence, there are those who would argue that it was due to "native" intelligence that enabled the person to engage in important experiences. It is apparent that more inquiry, scientific inquiry within the contextual whole, is needed. Even now, there are those who refuse to accept an important principle of learning, which is to take into account the individual differences in learning and the need for meaningful, successful experiences.[27]

Individualized instruction is emerging as the most important single force for innovation and reform for three reasons. First, society--or perhaps just the student--is insisting that schools take account of individual differences; and secondly, technology is becoming available to augment the teacher's efforts to give attention to the individual desires and needs. A third reason, although one that has had little note, is the influx of adults into educational institutions--an influx of adults seeking to become educated. Many of these adults are far beyond the age which was believed to be the terminal point for learning, much less becoming educated. This has prompted some professors and administrations, to reevaluate their methods and to understand, perhaps, what Dewey meant when he spoke of education as being a process and a progress of growth. Education is progressive and continues until activity of the organism ceases. That the organism is an individual should

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[27] Ibid.

indicate that its growth is also an individual process and that its education should be individualized. What Professor Susan Meyer Markle of U.C.L.A. said, "Individualized instruction is a necessity, not a luxury,"[28] is but an echo of the voice of Dewey.

Dewey's philosophy by his own admission is pragmatism, but is more often referred to as experimentalism. He emphasized, as we have seen, the importance of the experiment as a component of inquiry and experience. Often a dire situation forces an institution to engage in experimentation, and one such example is of note.

Private colleges and universities are finding it difficult to survive under the high cost of education. More and larger subsidies are going to the larger land-grant colleges and larger state-regulated institutions or systems, and as it is a natural thing to sit at the table where the gravy is, students are going where educational or research grants are being awarded. Duke University hopes to reverse the traffic.

Dr. Robert Krueger, of Duke University, is the architect of an entirely different approach to learning which Duke University is to initiate on its campus in the fall of 1969. Each student will get what is close to a tailor-made education. Theoretically, it will be possible to earn a degree without ever attending a lecture. The system puts stress on continuing education, self-motivation, and independent study. Semester hours will change to semester courses.

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[28] Ibid., p. 125.

Central to Duke's experiment in education is a concept called "learning experience," apparently provided by "tutorial" or "preceptorial" sessions. The program is based on the premise that education is a "stance toward life." A desirable stance is most likely to develop in an atmosphere of freedom, composed of open-mindedness, flexibility, versatility, rationality, and well-intensioned efforts. The student shares the responsibility for his own education and his own decisions, and he will have extensive personal contact and dialogue with teachers and classmates. His studies will not be limited to the campus but may carry him to distant parts of the world.

Krueger insists that the student's desire for relevance in his course of study can be satisfied and combined with the parent's desire to see him develop self-reliance and discipline as the student makes choices and engages in independent research. The student matures by making choices, even wrong ones.[29]

Another point that Krueger makes is:

> . . . If the student develops the art of changing his intellectual stance as he gets new insight or information, he can more easily develop a stance toward the world that will keep him balanced even while his environment is in flux.[30]

The question to be asked is, how "new" is Dr. Krueger's concept of education? Perhaps what is "new" is the application of basic concepts that

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[29]Paul Fogleman, "Duke Devises New Way to Educate Future Generations," The Knoxville News-Sentinel, July 14, 1968, p. 12.

[30]Ibid.

were not even "new" with Dewey, who put emphasis where it belongs--on the whole man.

Education today has incorporated many of the concepts that Dewey expressed in his philosophy of education; also, much of what he said is shrugged off as being a truism. One wonders to whom such truths are obvious; if not to the one learning to be a "teacher," then it must be the person already professing to be a teacher. The question then arises--if he knows that learning should include the contextual whole, that learning and growth are an individual thing, that scientific inquiry is a method which will produce beneficial consequence, that practice and theory are integrally related, that the great teacher adds creativity and inspiration to his basic repertoire, that learning is desirable and pleasurable, and that students learn outside of school as well as in school--then why has he not used his knowledge wisely for his own benefit and for the benefit of society? Perhaps the one who refuses to practice truths is like the man who rarely becomes an example of his own convictions. He solves problems and writes the solutions for others to follow, not caring about putting into practice what he advocates. His "immortality" is established in his written efforts. Perhaps he, who will not practice truths, is like the man who reads of a solution to a problem common to all men and agrees that the solution is a correct one--but for the other person. Dewey certainly endeavored to practice what he believed educational systems should be--a place to transform meaningful experiences into more meaningful experiences.

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VITA

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In 1948 he married Robbie Williamson from Murphy, North Carolina.