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ARISTOTLE AND THE PHILOSOPHY OF INTELLECTUAL EDUCATION

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The purposes of the paper are to explain three philosophical principles in Aristotle s metaphysics and to ascertain some implications of these topics for education especially concerning the cultivation of the mind The first of the two major sections of the paper is devoted to an outline of Aristotle s principles concerning act and potency causality and knowledge as found in the *Metaphysics* The second major section consists of a search for educational implications of these philosophical principles with special attention to the goals of education the curriculum and the teacher student relationship and with some reliance upon Aristotle himself and two twentieth century philosophers

Aristotle is recognized in the history of ideas primarily as a philosopher rather than as an educator or a philosopher of education Although he has not been overlooked entirely in education, it appears somewhat anomalous that a philosopher of his stature, who spent practically his whole life as an educator in a relatively formal sense, has failed to attract more attention than he has in philosophy of education

At least part of the explanation of this situation lies in the relative incompleteness of Aristotle's available writings about education According to Burnet (1968a), there is available in the *Politics* nearly all of what Aristode intended to say there about physical education, approximately half of what he intended to say about moral education, and none of what he presumably intended to say about intellectual education Despite the importance of physical and moral education to Aristotle, even a casual observer of his philosophy would be led to judge that the cultivation of the mind would have been among his major concerns in education Some evidence for this assertion, together with a consideration of the means of intellectual cultivation in a formal educational setting which would accord with selected philosophical principles of Aristotle, constitute the primary preoccupations in this paper

More specifically, the substantial purposes of the paper are to explain briefly three philosophical principles in the *Metaphysics* and to describe some

implications of these topics for the responsibilities of the educator, especially concerning the cultivation of the mind. Concomitant broader purposes are to exemplify a model of studying philosophy of education which is representative of studies in classical realism and to suggest an approach to philosophy of education which addresses extraordinary needs in contemporary education.

The exclusive Aristotelian source will be the *Metaphysics*. His principles concerning act and potency, causality, and knowledge will be summarized briefly and used as a basis for analyzing certain features of the educational process devoted to the formation of the intellect. The educational applications will focus partially upon two complementary essays, one by Etienne Gilson (1957) and the other by Anton C. Pegis (1954). The authors of these essays are known as interpreters of St Thomas Aquinas, who adapted much of Aristotle's thought to a Christian context. Therefore, we should not be surprised if their principles of intellectual education satisfied the spirit of Aristotle's *Metaphysics*.

Furthermore, Aristotle himself offers a comment on the role of the educator in the *Metaphysics*, which suggests a foundation for the philosophical-educational connections which will be analyzed and synthesized in this paper. Finally, some pertinent remarks on education will be made independently of the Gilson and Pegis essays.

SELECTED PRINCIPLES FROM THE *METAPHYSICS*

Act and Potency

One aspect of Aristotle's (1943a)[1] analysis of being in the *Metaphysics* focuses upon his distinction between act (or actuality) and potency (or potentiality). In Book IV, Chapter 5, he says,

> ...to 'be' has two meanings. In a sense it is possible that something should come out of what is not and in a sense it is impossible, and in a sense the same thing can at the same time both 'be' and 'not be,' though not in the same way. For the same thing can at the same time 'be' potentially two contraries but not actually (p. 18).

This means that a particular thing possesses within itself the *possibility* of becoming either of two contraries; however, when it *actually* becomes one of those two, it cannot simultaneously be the other.

In Book V, Chapter 7, there is another introductory type of reference to this topic: '... "being" and "is," in some cases we have mentioned, mean potential being and in others actual' (p.23). Three examples are mentioned. In Book IX

[1] All further references to the *Metaphysics* are from this edition.

this subject is treated in some detail There, in Chapter 6, Aristotle says 'Actuality is the existence of a thing, but not in the way we mean when we call it potentially something' (p 29) Consciously preferring examples and analogies to definitions, he associates actuality with 'one who is building' and potentiality with 'one who can build' (but is not doing so), again, actuality is ascribed to 'one who is seeing' and potentiality to 'one who can see but has shut his eyes' (pp 29-30)

Although Aristotle eschews definitions of act and potency in this context, it seems helpful to conclude that the former signifies the (relative) realization, completion, perfection, determination or fulfillment of a thing, whereas the latter may be described as the capacity of a being to be what it is not, to have what it has not, or to do what it is not doing The actuality is relative insofar as it characterizes a contingent or limited being, a being comprised of potency and act (as distinct from Pure Act) A contingent existent, being imperfect in an absolute sense, is persistently subject to change, of course A being changes through the actualization of one or more of its potentialities

Aristotle considers briefly two related questions in Book IX of the *Metaphysics* Firstly (in Chapter 7), when does a thing exist potentially, and when does it not exist in such a manner? For example, the earth is not potentially a man, also, something, but not everything, can be healed by medical art. In answer to the problem, Aristotle offers two related statements 'The requirement for that which by exercise of thought passes from being something potentially to being it actually is that, once the change is willed, nothing external must prevent its taking place ' 'In all cases where the principle of becoming actual is in the thing itself, it is already potentially whatever it will be, if nothing external prevents' (p 30)

The second of these two questions is considered by Aristotle in Chapter 8 of Book IX, it concerns the meaning of the 'priority' of the actual to the potential Actuality is prior to potentiality in two ways In the first place, actuality is prior *in time*, for 'always something actual is produced from something potential by something actual, as a man by a man, a musician by a musician' (p 30) This means that an actual person must previously have been potentially a person, but could not have been actualized without the instrumentality of a previously existing actual person (pp 30-31)

Two very important principles attend this kind of priority One is evident from what has been said ' everything that is produced is produced from something and by something of the same form as itself ' (p 31) The other is based upon what has been said, but will be explained below in conjunction with a review of Aristotle's explanation of causality 'Always there is a first mover, and the mover

actually exists' (p. 31). This assertion rests upon the impossibility of an infinite regression of causes (or movers) and upon the necessity of a first principle whose essence is actuality (p. 33).

In the second place, actuality is prior to potentiality *in substance* 'because things that are later in coming to be are really prior in form and substance, as, for example, man is prior to boy ... since the one already has its form and the other has not.' Furthermore,

> everything that comes into being moves toward a principle, which is its end; for that for the sake of which it exists is its principle, and its coming into being is for its end. And actuality is its end, and it was to become actual that it acquired potentiality ... ... men have the art of building that they may build, and theoretical method that they may theorize (p. 31).

Aristotle illustrates the matter further, indicating that animals have the power of sight to see, not vice versa (p. 31).

Actuality and potentiality designate for Aristotle real and correlative principles of being. Each is real in its own manner. They are correlative in that they always exist together and relative to one another in a contingent being. They are principles (sources or explanations of meanings) of being, not beings, as such.

Another distinction made by Aristotle in the *Metaphysics*, that between essence (or the essential) and accident (or the accidental), is a further delineation of the meanings of actual and potential being. In Chapter 7 of Book V, he says, 'A thing is said to "be," sometimes in an accidental sense, sometimes by its own essential nature' (p. 22). Examples of accidental being (as the musical character of a person) are offered before a reference to the categories of essential being ('how many senses a thing essentially *is*') - whatness, quality, quantity, relation, activity, passivity, place, and time (pp. 22-23).

In Book VII, Chapter 4, of the *Metaphysics*, the concept of essence is analyzed briefly in relation to 'substance.' Essence is one of the ways of defining substance (p. 26), according to Aristotle, who describes the essence of a thing as 'what it [the thing] is said to be in its very self' and, in the case of a person, 'what you are by your very nature.' More generally, 'essence is composed of those things the enumeration of which makes a definition' (p. 27). In Chapter 6 of Book VII, the essence of a thing is identified with 'each individual thing' and is the basis of knowledge, for 'to understand anything is to understand its essence' (p. 27).

In accord with Aristotle, the essence of a being pertains to the characteristics of that being which are necessary to its existing as the kind of being that it is. On the other hand, an accidental characteristic is one which is not necessary to

its existing as the kind of being that it is An example of the former is the union of body and soul in order to be a person (as Aristotle indicates elsewhere) and an example of the latter is the brown hair of a musician

Thus far, the first major topic (actuality and potentiality) and a subsidiary topic (essence and accident) have been explained briefly in accord with Aristotle's *Metaphysics* Closely related to these matters is the second major topic, causality

Before summarizing Aristotle's version of causality, however, some questions suggesting educational implications of act and potency (and essence and accident), to be considered in the second section of the paper, will be mentioned In view of the Aristotelian meanings of these terms, how do the general and specific goals of education reflect the actuality and potentiality of the student, including their essential and accidental characteristics? What kinds of courses will be taught as means to the goals? Which courses, if any, will be required of the student? What responsibilities does the teacher bear in his relationship to the student in light of established goals and the desired curriculum? Finally, how are answers to these questions inferred from and related to Aristotle's philosophical analysis of act and potency and of essence and accident?

Causality

No student of Aristotelian philosophy is unfamiliar with the analysis of the material, formal, efficient, and final causes of contingent being The importance of this doctrine in Aristotle's thought will be at least suggested in what follows Some indication of that importance, as well as of the connection between the doctrines of causality and of act and potency, lies in his teaching that all changes (actualizations of potencies) in beings must be caused

Aristotle discusses causality in Books II and V of the *Metaphysics*, the latter constituting the fuller and clearer account In Book V, Chapter 2, the four causes are distinguished and explained The material cause is 'that from which as present material something is made' (p 12) An example given is the bronze of a statue This cause also can be seen (in interpreting Aristotle) as the subject in which the change takes place, that which persists throughout the process of change, and that which is changed or determined While these explanations and the example given obviously focus upon physical alteration, the material cause of spiritual change can be accounted for by identifying it with potentiality, for example, the capacity of a being to be what it is not. (This last notion of material cause is crucial to explaining the material cause of the student's academic learning)

Secondly, the formal cause is 'the form or pattern, that is, the essential formula, and the types of things comprising this, and the parts of the formula' (p. 12). For example (according to the text), the ratio 2:1 and number generally are causes of the musical octave. In regard to the bronze statue, the physical form of the statue itself would be the formal cause. Further interpretation leads to explaining the formal cause as that which makes a thing to be specifically what it is, the new previously potential form educed from the subject, and a definite active determining or actualizing. The last two denotations enable us to identify the formal cause with actuality in order to ascertain such causality in the spiritual order. In this sense, it obviously is a corollary of the material cause as potentiality. (Again, this notion of formal cause is vital to describing the formal cause of the student's academic learning.)

The efficient cause, according to Aristotle, is that cause which seems to be associated most popularly with causality, as, for example, when someone asks 'What caused that?' It is 'that by which a change is begun or stopped' (p. 12). In the example provided, the maker is considered a cause of that which is made. In regard to the bronze statue, the sculptor of the statue would be the primary efficient cause and his tools would be secondary efficient causes. Therefore, the efficient cause, we can presume, is the extrinsic active influence bringing about the new form, the agency or maker whose activity produced the object.

Fourthly and lastly, the final cause is the final end or 'that for the sake of which something else is' (p. 12). An example provided is health, which is an end of walking. In regard to the bronze statue, the intention of the sculptor in making the statue is the final end. In Book XII, Chapter 7, of the *Metaphysics*, Aristotle distinguishes between the final end in a relative sense (a movable means to something else) and the final end in an absolute sense (an immovable entity beyond which there is no other end). This is evident from the following passage:

> That the final cause belongs among immovable things is proved by distinguishing between its different meanings. For the final cause is both the good for the sake of which something else is, and the good which is the end of action. In the second of these senses it is among the immovable things, though in the first it is not (pp. 34-35).

These statements suggest interpretations of the final cause in the intentional order, that is, in the mind of the human subject, and the final cause in the existential order, that is, external to the knowing subject. The latter refers, of course, to Aristotle's conception of the Prime Mover.

The final cause also is referred to as the 'cause of other causes' in that it renders the efficient cause operative. Without the exercise of the final cause,

none of the other causes would function, and no effect would occur (Bittle, 1939)

In Book V, Chapter 2, Aristotle (1943a) concludes and then summarizes his brief account of the four causes Three points of the conclusions will be noted and the short summary will be cited In the conclusion, firstly, he points out that the various meanings of 'cause' allow for the fact 'that there may be several causes of the same thing, and not accidentally, either' (p 12) In accord with his example, both the sculptor's art and the bronze cause the statue, as such Secondly, 'things are causes [in different senses] of one another', for example, hard work is a cause of a sound body and vice versa (p 13) Thirdly, 'the same thing is sometimes the cause of contrary results, for that which by its presence is the cause of something we sometimes blame for being by its absence the cause of the contrary ' In the example given, the absence of a pilot can cause a shipwreck, whereas his presence causes safety (p 13)

The following paragraph represents Aristotle's own summary of the four causes

> All the causes here mentioned fall under the four obvious headings The letters that make up syllables, the materials of manufactured objects, fire and earth and all such bodies, the parts of the whole, the premisses of a conclusion are causes in the sense that they are that out of which things are made Of these some are causes as material, such as the parts Others are causes as form or essence, such as the whole, the synthesis, and the formula The seed, the physician, the adviser, and in general the makers, are all efficient causes of change or of rest The remaining causes are the end and the good of things, for the final purpose tends to be the greatest good and end of the rest Let it not matter whether we call it the good or what seems to be the good (p 13)

One other point remains to be considered relative to Aristotle s doctrine of causality That point (iterated in Book II, Chapter 2, of the *Metaphysics*) has been anticipated above in the analysis of the final cause 'Plainly there is a first principle and the causes of things are neither an infinite series nor infinitely varied in kind' (p 13) Illustrations of this point pertain to the material, efficient and final (and, somewhat incidentally, formal) causes The arguments are similar in all four instances The final cause, Aristotle says,

> cannot keep on receding indefinitely, walking for the sake of health, health for the sake of happiness, happiness for the sake of something else, one thing always existing for the sake of another Nor, on the other hand, can there be an infinite process downward from a start in something higher, as if, for instance, water were made from fire, earth from water and so forever something new being produced (p 14)

In his general explanation of the infinitely regressing series of final causes, final cause is interpreted in the absolute sense. 'Moreover the final cause is an end and the sort of end that exists not for the sake of something else but all other things exist for it. So, if there is a final cause of this kind, the process of change and becoming will not be infinite' (p. 14). Two specific arguments defending the impossibility of infinite regress concern implications of such regress: destruction of the good (since, not expecting to reach some end, no one would begin to do anything), and elimination of any intelligence in the universe (because intelligence connotes purposiveness) (p. 14).

Lastly, an infinite number of kinds of causes would render knowledge impossible, since 'only when we have discovered its causes, do we think we know a thing; but an infinite sum cannot be counted over in a finite time ...' (p. 14).

Before summarizing the nature of knowledge, the third major topic from Aristotle's *Metaphysics*, some questions suggesting educational implications of his view of causality, to be considered in the second section of the paper, will be mentioned. In general, what are the causes of the student's learning? Concerning the material and the formal causes, is there more than one of each on a given occasion and on consecutive occasions? Are these causes physical, spiritual, or both? Is the teacher or the student the primary efficient cause of the student's learning? Do other efficient causes operate simultaneously? If so, are they physical, spiritual, or both? What is the (ultimately) final cause of the student's learning? Who decides, and upon what grounds? What, if any, voice does the student have in the planning of his or her education? How does the denial of an infinite series of causes and the insistence upon the necessity of a First Principle or Unmoved Mover affect the educational goals and the curriculum, especially relative to the matter of change and permanence? What means will the responsible educator assume to direct the attention of the student toward the Transcendent? Finally, how are answers to these questions inferred from and related to Aristotle's philosophical analysis of causality?

Knowledge

'All men by nature have a desire to know' (p. 5). This statement launches Aristotle's *Metaphysics* and introduces his theory of knowledge as it is found in this source. His analogous use of 'to know' comprises six meanings: sensation, memory, experience, art, science, and wisdom (including intuitive reason). These meanings, which might be viewed as stages, will be analyzed briefly.

Immediately following the opening sentence of the *Metaphysics* just cited, Aristotle says 'A sign of this [the natural desire to know] is the joy we take in

our senses, for quite apart from their usefulness we love them for their own sake, and the sense of sight above all' (p 5) The placement and connotation of this statement indicate the value which Aristotle attributes to the senses in the process of knowing In fact, he apparently concludes that all knowledge comes through the senses, as will be evident from what follows, that is achieved indirectly rather than directly in some instances

Memory is mentioned in conjunction with sensation and experience It involves recalling sense impressions when the specific object of sensation is no longer present. Experience, the third meaning of 'to know', is a combination of sensation and memory The function of memory in experience is to unify various particular sense impressions into what seems to be a single experience This kind of knowledge entails awareness of individual or singular instances and awareness *that* a thing is so (pp 5-6) It is identified with knowing practical rules without knowing the reasons for the rules (Ross, 1937) Aristotle's example is knowing that a particular remedy helped rid a number of individuals of a specific disease

Fourthly, art 'is produced when out of many ideas gained through experience we draw one general conclusion about some class of like cases' (Aristotle, 1943a, p 6) Art, therefore, is knowledge of practical rules founded upon general principles (Ross, 1937) Aristotle's example is knowledge that and why a remedy is effective for all individuals of a certain constitution when ill with a specific disease

There is a double contrast to be noted between art and experience Whereas the latter is awareness of the *particular*, the former is awareness of the *universal*, secondly, whereas the latter is awareness of the fact *that* something is so, the former is awareness of *why* it is so (Aristotle, 1943a, p 6)[1] Therefore, in experience, one knows merely *that* this *particular* thing is so, in art, one knows *why* the *universal* principle is true This distinction between experience and art is highly important to Aristotle's understanding of the process of intellectual education, a point that he makes in this regard in Book I, Chapter 1, of the *Metaphysics* will be discussed in the second section of this paper

Fifthly, science is referred to in the first chapter of Book I of the *Metaphysics* as having been explained in the *Ethics* (p 7) There, it is called 'a mode of conceiving universal and necessary truths' (Aristotle, 1943b, p 174) Since no

[1] In a footnote on this page the *universal* is defined as 'the permanent type or class of which the individual is a passing member or the unchanging general principle to which the shifting particular instance more or less conforms

changing object can be known when it is no longer in sight, scientific knowledge is awareness of necessary, unchanging, and eternal objects. According to Aristotle, object can be known when it is no longer in sight, scientific knowledge is awareness of necessary, unchanging, and eternal objects. According to Aristotle,

> Scientific knowledge then may be defined as a state in which the mind exercises its faculty of demonstration ... For only when a person has a certain belief and is sure of the principles on which his belief rests, can he be said to possess scientific knowledge, since, if he is not more sure of his principles of premises than of his conclusion, his scientific knowledge will be only accidental (pp. 172-173).

Science, therefore, in an Aristotelian sense, is pure knowledge of causes, knowing for the sake of knowing (Ross, 1937). (Aristotle makes a somewhat incidental reference to education in this context when he adverts in a single sentence to the teaching of science and the learning of an object of science, points to be mentioned in the second section of the paper.) Science is similar to art in that it is knowledge of the universal, but it differs from art, which is not knowledge for its own sake, but knowledge for the sake of some ulterior practical end (as curing a disease). It is similar to wisdom, the last and highest form of knowledge in this hierarchy, in that it (science) is knowledge of an eternal object for the sake of knowledge itself; wisdom, on the other hand, is knowledge of the first causes and highest principles of all things (Aristotle, 1943a).

Wisdom is called 'the most complete of the forms of knowledge,' and 'the complete science of the loftiest matters.' More specifically, it is 'a union of intuitive reason and scientific knowledge' (Aristotle, 1943b, p. 175). Therefore, before proceeding to a further description of Aristotle's view of wisdom, consideration of intuitive reason is in order.

Intuitive reason (or intuition) is the means of apprehending the undemonstrable first principles or axioms upon which any science is based (Aristotle, 1943b). These first principles or axioms also are called central intuitions and, according to Aristotle, are necessary as a basis or starting point in every branch of knowledge; without them one could not proceed to demonstrate anything, for having to prove the foundation of each assertion would mean indefinite regression. These principles are undemonstrable in that they are not logically or rationally defensible; they are intuited as necessarily true once the meanings of the terms of the proposition are understood. In other words, these central intuitions are self-evident (Loomis, 1943). The prime example of such a principle, in Aristotle's judgment, is the principle of non-contradictions: a thing cannot exist and not exist in the same way at the same time (Aristotle,

1943a). Other examples are the axioms of Euclid's geometry and a physician's presumption that bodily disease exists (Loomis, 1943).

Therefore, intuitive reason is at the basis of all wisdom, which is delineated further by Aristotle in Chapter 2 of Book I of the *Metaphysics* by means of describing the wise man. This kind of person is detected by six characteristics: he knows all things, insofar as is possible (without, however, knowing all details); he understands difficult things; he has more exact knowledge as his wisdom increases; he is better able to teach the causes of things as his wisdom is enhanced; he possesses knowledge for the sake of knowledge; and he ought to give orders rather than to receive them (p.8).

Shifting from attention to the wise man back to wisdom itself, Aristotle depicts this most exalted mode of knowledge in a fashion parallel to the above characteristics of the wise man. The supremacy of wisdom rests upon the following facts: its object is the most universal; being the most universal, its object is the farthest removed from the senses, and, therefore, perhaps, most difficult to grasp; it is the most exact of all forms of knowledge (based on the notion that those branches of knowledge with the fewest principles are most exact); it is the best for teaching since it investigates causes, including the highest cause; it is knowledge (most) desirable for its own sake; and it is the science through which is known the highest good for all nature (pp. 8-9).

Aristotle's conclusion regarding wisdom is evident from these observations in the *Metaphysics*:

> Supreme then among the sciences and superior to all subordinate science is that which knows the end for which everything takes place, which is the good for each thing and, as a whole, the highest good for all nature. According then to everything we have said, the name of wisdom belongs to this same science; for it must be that which investigates first principles and causes, since the good as the end and aim of things is one of the causes (p. 9).

The source of wisdom - and of all philosophy - is wonder. 'For it was wonder that made men first start to philosophize and still makes them today...'

> Then as men framed systems of philosophy to escape from their ignorance, it is clear they were pursuing knowledge in order to understand and not for any practical use to which they might put it. The facts themselves support our statement, for it was not until after almost everything necessary for life, comfort, and recreation had been provided that this kind of knowledge began to be sought. Manifestly then we seek this knowledge for no utilitarian end but, even as we call a man free who lives for his own sake and not for another's so we call this the only free science, for it alone exists for itself (p. 9).[2]

This appreciation of wisdom and of philosophy, in general, suggests some fundamental features not only of teaching philosophy, but also of liberal education. These matters will occupy the central place in the second section of this paper. Before beginning that section, however, reference will be made to some questions suggesting educational implications of Aristotle's view of knowledge. In general, how is the student to be assisted to advance from sensory awareness to the possession of wisdom, retaining the unity and interrelationships of these various modes of knowing? More specifically, by what means are each of these modes to become familiar to the student? What sequence of subjects can be planned to achieve the goals implicit in the first two questions? What activities can be planned to promote in the student the awareness of the unity of all knowledge? What is the role and function of the teacher in effecting the cultivation of the mind of the student?

These questions pertaining to Aristotle's view of knowledge, as well as those mentioned above in connection with his principles of act-potency and causality, provide the framework for a consideration of aspects of an Aristotelian (as distinct from Aristotle's own) theory of intellectual education.

EDUCATIONAL IMPLICATIONS: CULTIVATION OF THE MIND

Teaching, in accord with the philosophical principles of Aristotle discussed above, is the causation of the actualization of the student's potentialities, especially in relation to the cultivation of the mind as a means of knowing the truth. This statement links the three major topics of the first section. A somewhat detailed explanation of it will be based upon three direct references to education in the *Metaphysics*, upon some logical implications of the philosophical principles in the first section, and upon (primarily) two secondary sources - the work of Gilson (1957) and Pegis (1954) mentioned above. The topics to be followed here parallel those in the first section and pertain to the development of relatively mature students who are capable of reasoning (see Aristotle, 1946).[3]

[2] A bridge between speculative knowledge and character, the two focal points of Aristotelian educational theory, is prudence, 'a rational and correct state of mind which is operative in the area of human goods', or right reason as applied to ascertaining the good life (see Aristotle, 1943b, p. 174). Any allusion to knowledge and character, as well as to potency-act and causality, in Aristotle's frame of reference presumes a dualistic conception of the person. The human being, according to Aristotle, is comprised of body and soul, the former being irrational (vegetative and appetitive) and the latter rational (practical and speculative). Art, science, wisdom, and prudence are means by which the rational soul arrives at truth.

[3] Aristotle's educational ladder includes the following stages: infancy, infancy to age 5, ages 5 to 7, age 7 to puberty, and puberty to age 21 (Aristotle, 1946, pp. 328-331).

Some Educational Implications of the Principles of Act and Potency

In light of the meanings of act and potency explained above, educational implications will be sought in regard to the goals of education, the curriculum, and the teacher-student relationship. The first of these three topics is intended to cover *why* one educates (or the direction of education); the second pertains to the questions of *what* should be taught (or the content of education); and the third concerns the responsibility of the teacher relative to the student's learning and to the student as a learner.

Relative to the Aristotelian principles of act and potency, the general goal of education, from the educator's perspective, might be seen as an attempt to assist the student to actualize his or her potentialities, with appropriate attention to the more and less important dimensions of the developing student. More particularly, again from the educator's point of view, the goal could be to become familiar with individual students in order to assist each one toward maximum self-development in the most efficient and satisfying manner possible within the given circumstances.

These goals implementing the philosophical principles of act and potency should be understood, of course, in the context of an awareness of the essential characteristics of a student as well as the accidental differences among students. For example, the essence of a person (according to Aristotle) is the composite of body and soul in which the latter is spiritual and the 'higher part.' Therefore, in the process of education, while the aim is the actualization of the student's physical and spiritual being, the former is subordinate to the latter; the body is to be cultivated for the sake of the soul.

Since the soul consists not only of a strictly rational faculty, but also a capacity for obeying, character education (based on the latter faculty) would be expected to accompany the cultivation of the mind. Both intellectual education and character education would hold a priority over physical education due to the subordination of the physical to the spiritual in Aristotle's order of reality (see Burnet, 1968a, 1968b).

While goals pertaining directly to the development of the essential features of the student will be universal, other (more specific) goals centering upon accidental characteristics of students will be geared to individuals or groups of individuals.

Aristotle's philosophical principles of act and potency also seem to have a significant bearing upon the curriculum. 'Curriculum' here can be assumed to denote a series of academic disciplines established and organized in light of the nature of truth, the nature of the person (including the capabilities of human awareness and the patterns of human development) and various existential

circumstances. The curriculum is an essential means of the actualization of the student's physical and spiritual potentialities.

In accord with the goals of Aristotelian education indicated above, there would be courses devoted to enhancing physical as well as spiritual maturation; however, the latter would have a primacy over the former. Courses suggested by Burnet, in interpreting Aristotle's supposed view of intellectual education, include biology, history, physics, theory of the heavens, theology, and First Philosophy (Burnet, 1968a). These subjects would be preceded, in elementary education according to Aristotle himself (1946), by reading and writing (possessing an element of utility), drawing, gymnastic (promoting the moral virtue of courage), and music (serving purposes of amusement and relaxation, moral training, and cultivation of the mind).

Presumably, ethics, including practical applications, would be taught as a means of cultivating the mind in a manner relevant to the formation of sound character in the student. Two points should be noted, though: no degree of ethical knowledge will necessarily assure correct behaviour, and the latter cannot be taught directly (as one cultivates the mind through teaching mathematics, for example)[4]. Aristotle apparently would emphasize the good character of the teacher as a partial basis for some hope of promoting the formation of sound character in the student.

One other curriculum matter pertains to the Aristotelian philosophical distinction between essence and accident. Courses in the curriculum which are intended to stimulate the development of the student's essential characteristics would be required courses, whereas those courses pertaining more directly to the accidental traits of various students would be optional (barring other reasons for requiring them). Each student would be encouraged to become sufficiently familiar with himself or herself to allow for wise choices among optional courses, those which would allow for maximal development of the student's personal and individual (accidental) potentialities[5].

The teacher-student relationship, another educational topic pertinent to Aristotle's analysis of act and potency, would be directed to effect the above stated purposes by means of the principles of the curriculum just indicated. The

[4] A relevant example of the educational paradox of the order of importance of cultivating the mind and the will can be found in Maritain (1943), pp. 27-28.

[5] For a pertinent example of a distinction between subjects of 'knowledge-value' and subjects of 'training-value', see Maritain (1943), pp. 51-57.

teacher would be responsible for becoming familiar in a general manner with essential and accidental human potentialities, and for becoming familiar with one's own students' actualized talents and accidental potentialities. This awareness could be gained by various means (including appropriate kinds of association with the students themselves and their parents) and would be an essential means of assuming the educative function, especially in relation to the use of the curriculum. More specifically, the teacher must know what the student knows and is capable of knowing in order to facilitate progress in learning (fulfillment of potentialities) on the basis of present (actualized) learning.

These remarks indicate that Aristotle's philosophical principles of act and potency (including essence and accident) have a significant bearing upon the goals of education, the curriculum, and the teacher-student relationship.

Some Educational Implications of the Principle of Causality

The relevance to education of Aristotle's analysis of material, formal, efficient, and final causes lies in the notion of teaching as the causation of the student's learning.

The material cause of the student's learning (that out of which the learning develops, the subject in which the learning occurs, that which persists throughout the learning, or that which is changed or determined in the learning process) is obviously the student, as such. This signifies, within an Aristotelian framework, a being which is a composite of body and soul, with the latter the specific subject of character and intellectual education. Furthermore, the material cause of learning is identified with the student's potential or capacity to learn.

The formal cause of the student's learning (the form or pattern induced in the process) is the 'learned student' (the student in a relatively learned condition). This is the positive result of the educative process and can be identified with the (relative) actualization or fulfillment of the student's learning.

The efficient cause of the student's learning (the agent of that process, which produces the result) is manifold. Although the (human) teacher is sometimes an essential efficient cause of the student's learning, the student is always the *primary* efficient cause. This is so because no learning can occur without the instrumentality of the student's faculties, whereas the learning of the student can be actualized without the effort of the teacher. These facts suggest further principles to be discussed below, among them the principles that no one can learn for another, and that the function of a teacher is merely to motivate and assist the student to engage personal powers of learning. Other efficient causes of learning include the curriculum and such factors as books and libraries, film projectors and film strips, chalk and blackboards, paper and pencil, as well as

various non-classroom personnel such as administrators, counselors, social workers, and librarians.

Lastly, the final cause of the student's learning (the end of that process) can be taken in a relative or an absolute sense. Relative ends or goals of learning are those which also serve as means to other ends; the absolute end is that for which the learning ultimately occurs and is not a means to any other end, but is sought for its own sake alone. A relative final cause of learning for Aristotle would be the ability to read and understand human language; the absolute final cause is contemplation of the highest good. This notion leads to a consideration of educational implications of Aristotle's view of knowledge, which constitutes the last major part of this section of the paper and follows some further comments on causality and education.

In accord with Aristotle's thought, this application of causality to education means that without the operation of all four causes in any particular instance, there is no learning. Moreover, this view of causality applied to human learning suggests a particular mode of education, which has special signification for the cultivation of the mind, which will be analyzed further in connection with the Aristotelian conception of knowledge.

The last topic connecting Aristotle's view of causality to a theory of education pertains to his principle that there can be no infinite regression of causes. This means that the cause of a students's learning cannot be identified with an infinitely regressing series of causes because then there would be no final cause, which indicates that there would be no learning at all since, not expecting to reach some end, no one would begin to do anything. The elimination of a final cause also signifies that no learning would occur because all intelligence in the universe would be obliterated since intelligence connotes purposiveness.

In conjunction with this argument against an infinite regression of causes are the notions (indicated in the first section) of final cause in the internal order of intention (which is a movable cause) and in the existential or external order (which is an immovable final cause). The latter also may be viewed as a First Cause, Ultimate Being, or God. This appears to mean that, for Aristotle, the whole process of education not only must be planned in recognition of an Absolute Being, but also must be a process directed toward an awareness of the Transcendent. The implications of this point are serious and sweeping; they affect *everything* that is intended to occur within the educational process. An example is the effect upon the curriculum, wherein the choice and order of studies must be judged in terms of the best manner in which to lead the student to an awareness of the ultimate end.

One potentially effective way of ascertaining the general effect of the recognition of a Transcendent Being upon the educational process is to contrast directing the process toward the Transcendent (in accord with Aristotle) with two other possibilities: directing the process toward the non-existence of the Transcendent (as, for example, the existentialist Jean-Paul Sartre would prescribe) or avoiding the *question* of a Transcendent Being in educational planning as well as in the curriculum and the teaching-learning process itself (as, for example, the pragmatist John Dewey recommends). At any rate, a central point here is the First Being as a unifying factor in an Aristotelian-oriented theory of intellectual education.

Some Educational Implications of the Analogical Conception of Knowledge

It was stated at the outset of the second section of the paper that teaching (in this context) is the causation of the actualization of the student's potentialities, especially in relation to the cultivation of the mind as a means of knowing the truth. Aristotle's principles of act-potency and causality, referred to in the first part of this statement, have been related to aspects of educational theory in the first two parts of this second section of the paper. His analogical conception of knowledge, implicit in the last part of the statement, will now be related to educational goals, the curriculum, and the role of the teacher. The highlight of this exercise is an effort to describe, with Gilson (1957) and Pegis (1954), some specific means of teaching the student how to think in light of Aristotle's view of knowledge.

Recalling Aristotle's 'stages' of the process of knowledge based upon sensation and including memory and experience as well as the higher levels called art and science on the way to wisdom, it is evident that the general purpose of education is to assist the student to progress from the use of the senses (which is continuously necessary) to the possession of wisdom, developing a consciousness of the unity and interrelationships of all the modes of knowing. More specifically, it would be necessary for the educator within the context of this appreciation of the knowing process to promote the development of the student's cognitive powers pertaining to each stage in accord with age level, general capabilities, and interests.

In conjunction with these purposes, it seems important to emphasize not only the objective knowledge factors involved (the faculties of knowing and the truth to be known), but also the intrinsic worth of the student as a person, who is a focal point in the educational process. This means that, in practice, all procedures must be adapted to the immediate circumstances of the student. This does not necessitate foregoing the objective content of the curriculum, but it does require

patterns of content and legitimate alterations of them which are conducive to the motivation of learning. Another distinct, major consideration relative to the goals of education is to provide the *time* for the student to progress in accord with the reasonably judged demands of the subject matter and the specific situation of the student. This notion is suggested directly by Aristotle's association of wisdom with its origin in 'wonder' (Aristotle, 1943a, p. 10); no one wonders without time to do so.

The second topic to be considered in view of Aristotle's conception of knowledge is the curriculum. A general conception of curriculum construction was hinted at in the previous paragraph. Factors to be considered are the objective features of the nature of knowledge and the immediate circumstances of the student. There are various kinds of other factors involved, of course, including the intellectual climate of the times and local, national, and international needs.

In general, the curriculum will consist of somewhat preplanned subject matter moulded in terms of the nature of knowledge, and organized on the basis of the interrelationships of the different kinds of knowledge and the significant features of the learner. The curriculum will be ordered in a manner conducive to motivating the student to initiate learning, with culminating activities designed to enhance awareness of the unity of all knowledge.

Aristotle (1946) specifically designates the following subjects for the elementary curriculum: reading and writing, drawing, gymnastic, and music. Burnet (1968a) has added at least a partial curriculum for scientific education or education of the mind: biology and history, physics and theory of the heavens, and theology and first philosophy.

The third and final educational topic arising from Aristotle's view of knowledge relates to the teacher. My consideration of the role of the teacher relative to the cultivation of the mind in an area such as philosophy is based largely upon the reflections of Gilson and Pegis, who are indirect followers of Aristotle through their interests in the thought of St Thomas Aquinas. Before summarizing these two important sources, a few observations on the role of the senses and some means of arousing the beneficial use of them will be noted. Then a key remark on teaching from Aristotle's *Metaphysics* will be employed as a starting point for a further elaboration of some specific responsibilities of the teacher in (Aristotelian) intellectual education.

As indicated in the first section of this paper, all knowledge, according to Aristotle, comes through the senses directly or indirectly. Therefore, even in matters of intellectual education, the senses must be considered because the cultivation of reason would be impossible without the basis of some sense awareness. Since experience is a combination of sensation and memory by

means of which it is known *that* a *particular* object exists in such and such a manner, implications of the meanings of sensation, memory, and experience for the role of the teacher can be considered together.

Obviously, the physical environment must be presented in some manner in order to promote the use of the senses by the student. Relative to school education, this can be achieved by bringing the physical objects or setting into the school or by conducting field trips. Of course, the student must be prepared for meaningful awareness by explanations and various other means prior to the occasion. In addition, discussions to summarize and conclude the occasion (such as relating it to previous situations and future plans) also are needed. These kinds of activities appear to be conducive to the development of experience.

Certain exercises to cultivate the memory in relating sensations are required to induce experience. Storytelling and role playing, stressing imaginative endings of conclusions, in connection with sensory awareness might be provocative procedures employed by the teacher. At any rate, the foundation of all that is known by the student at these stages is personal sensory awareness of particular physical realities.

It will be recalled that the higher cognitive functions are introduced in Aristotle's dualistic scheme of human knowing at the stage of art, by means of which the student is capable of knowing *why* the *universal* (in practical matters) is true. In this regard, the following statements of Aristotle in Book I, Chapter 1, are extraordinarily significant: 'In general, the proof of a person's knowledge or ignorance is his ability to teach. Hence we consider art more truly knowledge than experience, for artists can teach and the others cannot' (Aristotle, 1943a, p. 7). This assertion indicates at least two essential characteristics of an authentic teacher, according to Aristotle: the teacher must understand why specific universal principles (concerning practical matters) are true and must be competent to assist another to assimilate this kind of knowledge. Although science and wisdom are distinct from art, relative to teaching, they share with art the fundamental significance of comprehending why a universal principle is true, indicating again certain responsibilities of the teacher.

It was noted earlier that Aristotle (1943a) refers to intellectual education at least three times in the *Metaphysics*. In addition to the passage just cited, he says in the context of a discussion of wisdom that 'The science that investigates causes is also best for teaching, for our teachers are those who explain the causes of each thing' (p. 8). More specifically concerning wisdom, he says, '... we think that in every branch of knowledge the wiser a man is, the more exact he is and the better able to teach the causes of things' (p. 8).

A fundamental posture of Aristotle regarding the function of a teacher in intellectual education can be detected in these citations. Rather than simply regretting that there is no extent treatise of his on the details of the teacher's role concerning this matter, one can turn to the use of other sources, judging whether or not what is said appears to be a reasonable outgrowth of what has been established thus far. The two sources utilized here are Gilson (1957) and Pegis (1954), whose credentials, as mentioned above, suggest that their educational principles can be expected to exhibit substantial consistency with what Aristotle might have said and/or written on this matter.

The teaching-learning process in this context seems to require the student's attention to a starting point and a method (or methods) of reflection as means to conclusions in learning how to think. The starting point includes Aristotle's undemonstrable principles of intuitive reason (such as the principle of non-contradiction). A primary goal of teaching an intellectual subject (such as philosophy) in an academic setting involves the distinction between teaching and indoctrination; that goal is to promote the student to learn how to think in order to know. This entails far more than an awareness of answers; it involves a clarification of first principles and a familiarity with the method(s) of the discipline to the extent that the manner in which conclusions are derived and justified becomes clear. This does not mean, of course, that the student must agree with the thought being investigated, but one must 'see' it from the point of view of the 'other' insofar as is possible. The curriculum obviously is a means to the achievement of such an educational goal. However, how does a teacher function in employing a suitable curriculum (with the general features suggested above) to implement this goal in a classroom?

Five principles related to this kind of teaching-learning situation will be summarized briefly as a basis for considering methods of teaching appropriate to assisting the student to become aware of the nature and function of first principles and suitable methods of reflection for deriving conclusions in an academic subject such as philosophy (see Collins, 1970). Teaching here can be taken generally to mean to cause another person to change in a certain manner; learning is the effect of that causality. Although one can learn independently of a teacher, when a person is taught, the first essential characteristic of the teaching-learning situation comes into play and is the enduring personal relationship between two distinct human beings.

What kind of relationship exists between the teacher and the student? Because the laws of human nature differ from those of purely physical nature, behavioural science differs from physical science. Since the person is a complex organism comprising material and non-material being, according to Aristotle, the

teacher-student relationship cannot be reduced to a scientific formula with definitely predictable outcomes. Therefore, the second principle of this kind of activity is that teaching must be recognized as an art demanding the instrumentality of personality.

Thirdly, the teacher-student relationship features an inequality which is a foundation for a proper use of authority. Since an effect depends upon a cause, the teacher (as cause) holds a certain priority, at least in regard to the particular knowledge to be communicated. The authority accruing to this kind of priority will be examined in more detail below.

Fourthly, the student is an active, cognitive being; this signifies the possession of a natural power of knowing. This power, however, is employed frequently with some difficulty (see Aristotle, 1946), demanding that the teacher assume the responsibility of motivating the student to want to learn.

The fifth principle underlying the art of teaching is a corollary of the fourth and sheds light upon the kind of motivation required in these circumstances. Since no person can understand anything for another, the teacher must promote the student's self-learning. Teaching (in this context) means to cause a personal discovery in the mind of the learner, a discovery of principles in their proper order. How is this discovery stimulated within the student? This raises further questions of the function of a teacher and the techniques of teaching.

Assuming the employment of the lecture and/or of discussion (presumably in conjunction with preparatory and/or follow-up reading), the essence of the process of teaching is summed up in the two following citations. 'In order to cause his pupil to invent learning, he [the teacher] himself must invent again what he is teaching, or, rather, he must go again, before his pupils, through the whole process, now familiar to him, of the invention of each and every truth' (Gilson, 1957, p. 306).

> ... the teacher of ideas cannot merely summarize or report what he has learned from others or discovered for himself. If he is to teach here and now, he must relive here and now the very process that he followed or that was necessary to his own learning, and he must relive his learning in the presence of his students. To be sure, this does not mean that a teacher must re-enact his own personal history in order to communicate what he has learned. But he must relive the intellectual process that was necessary to his own learning and that is now necessary to the learning of others. For it is this intellectual re-learning relived and re-experienced, present, active and fresh, that is at the beginning of the learning of the student. A student can learn only from and in the living process of learning; he cannot learn from summaries and reports and digests, however objective. This living process of learning is the life of the teacher at

> the moment of teaching. In teaching, the teacher shares this living process with his students, not indeed in the sense of giving it to them, since this he cannot do, but so that, by living within the intelligible world that is the active re-learning contained in the teaching of the teacher, the student may be directed and awakened to learn for himself (Pegis, 1954, pp. 19-20).

It is evident that, since the teaching of the teacher is his living re-learning of principles in their proper order in communion with the student, teaching and learning are fundamentally similar undertakings. The former is distinct in that it involves *re*-learning in the *public* forum.

Returning to the authority of this kind of teacher, it is clear that a distinction must be made between teaching and the truth, as such.

> In regard to the latter, the teacher stands as an equal with his students; he has no more authority than they to dictate or designate or supply the truth. The truth is not had because the teacher says so, but because through his reason, he has discovered where it lies and what it means. And the student, possessing the same faculties, is capable of, and responsible for, doing the same. This fact elaborated provides the philosophical basis for the idea of 'community of scholars' so widely desired, yet infrequently found on college and university campuses. In matters of truth itself the criterion is evidence, which is to be presented for appropriation by students; the teacher may appeal to his greater experience and background in learning, but ultimately the truths he presents have no more validity than the evidence he brings to bear. Concerning the communicability of the truth, on the other hand, the teacher must take the initiative and exert his authority; he must assume responsibility for saying and doing that which will initiate and/or continue the learning of the student. For example, the teacher is responsible for certain decisions to be made in determining the course content, specific requirements of the course, dates of quizzes and exams, etc. In these matters the final criterion is the (reasonable) will of the teacher; he may and must exercise some authority directly (Collins, 1970).

How is this view of the teacher-student relationship related to the difference between teaching and indoctrination? The latter can be taken to signify the teacher's providing the student with conclusions without assisting him to comprehend how those conclusions are derived, when circumstances are suitable for the attainment of such understanding by the student. Some anticipated results of this phenomenon are the student's lack of genuine intellectual awareness, inability to discover and evaluate conclusions rationally, deepened dependence upon the teacher, failure to appreciate the nature and function of first principles, and failure to enhance potential for evaluating and developing personal thought.

Authentic teaching, on the other hand, consists (in this context) of assisting the student to learn how to think by associating first principles with conclusions by means of using a method (or methods) of reflection and assimilating intermediary principles in relation to the first principles and conclusions. Anticipated results of this process include the student's comprehending the real meanings of conclusions, evaluating the consistency of the thought of the 'other,' depending less upon the teacher, learning how to derive further conclusions on the basis of specific first principles and the use of a method (or methods) of thinking, appreciating the nature and function of first principles of the 'other' (with an increased possibility of relating these first principles to one's own), and enhancing one's potential for evaluating and developing personal thought.

This interpretation of the teaching-learning process apparently is consistent with Aristotle's philosophy of knowledge and his three significant comments on intellectual education discussed above. His own explicit principles of knowledge also seem to support the above stated implications for the goals of education and the curriculum.

CONCLUSION

The main body of this paper is comprised of two sections, the first being devoted to a relatively brief description of Aristotle's principles of act-potency, causality, and knowledge as found in the *Metaphysics*; the second consists of a search for educational implications of these philosophical principles, with special attention to the goals of education, the curriculum, and the teacher-student relationship. Sources relied upon for the second section include the *Metaphysics* of Aristotle and pertinent essays of two twentieth-century philosophers. Other educational principles not based on these sources were sought through a process of analysis appropriate to this mode of philosophy of education.

One of the general features of Aristotle's philosophical principles summarized in the first section which appears to provide the fundamental orientation of the educational ideals discussed in the second section is his matter-spirit dualism, which is manifested in the body-soul composition of the person and in the sensible and intellectual components of human awareness. Associated with this dualistic framework as a basis for the educational theory are his insistence on the reality of universals and an Absolute Being and the human capability of understanding the causes of universal truths and ultimate reality.

This philosophical orientation provides the groundwork for an education directed toward assisting the student to employ the spiritual faculty of reason as a means of comprehending universal principles enroute to knowledge of the Primary Cause of all being. This goal necessitates a pre-established curriculum, adapted to the level of the student, which embraces studies allowing for the development of the body as well as, and more importantly, various kinds of studies provoking the use of the mind. Required and optional courses would be offered in view of essential and accidental characteristics of human nature and pertinent environmental circumstances.

A basic responsibility of the teacher of an academic subject (such as philosophy) would be to teach in such a manner as to promote the student to become aware of first principles through intuitive reason and to engage in a method or methods of thought appropriate to the particular kind of subject matter involved so as to derive meaningful conclusions. A primary function of the school in this context would be to assist the student to appreciate the nature of reality by viewing it through an interrelationship of various modes of academic disciplines as a means of understanding the First Cause of all being. This process entails the development of character as well as of knowledge.

One must exhibit care in attributing to Aristotle only what he has written, whether in philosophy, education, or the relationship between the two. Furthermore, it cannot be asserted with certainty that he would have posited those of the above educational applications, which, though apparently consistent with his philosophy, are not presently available in his texts, or that he would have posited only these applications. Again, it would not be realistic to insist that only the specific philosophical principles of Aristotle which are reviewed above could be employed to attempt to justify the educational ideals which are explicated. None of these limitations, however, diminishes the significance of an effort to ascertain implications of Aristotle's philosophy for a plan for intellectual education in light of the present textual deficiencies and Aristotle's presumably obvious enthusiasm for the cultivation of the mind through a process of education.

Other general educational principles which these philosophical principles of Aristotle suggest, but which were not analyzed explicitly in this paper, include the necessity of student activity and the priority of subject matter over techniques of teaching. In regard to the former, the activity can be overt physical activity, as in the case of bodily exercise, but it includes also (and more importantly) an exercise of the mind which is not directly apparent through the senses, and, therefore, not measurable. While there are physical and quantifiable manifestations of some (spiritual) intellectual activity, that activity itself is not

sensibly observable and remains unquantifiable. Therefore, the quality of intellectual education, according to Aristotle, is not entirely open to quantitative analysis.

The second point, the priority of subject matter over techniques of teaching, seems evident in light of the fact that there are different kinds of academic subject matter involving different methods of thinking (for example, in biology and in metaphysics), which provide the basis for teaching techniques. In other words, the teacher, first of all, must be familiar with the subject matter, not only knowing how to think in accord with the academic discipline, but possessing reflexive knowledge of the method(s) of thinking in order to plan how to teach others to think similarly. A good dose of common sense combined with one's own experiences as a student and a sensitivity to one's own students presumably will provide much of what the teacher will need in order to devise suitable techniques of teaching.

This raises another point, also not mentioned above, which pertains to the question of indoctrination. Genuine teaching does not necessarily exclude the proclamation of the teacher to the student that 'this is true.' That may be asserted by the teacher as long as appropriate means are taken to assist the student to engage in the process of thinking in order to understand why the conclusion is stated, and whether it is true or false. Failing to help the student to become independent of the teacher through the former's intellectual self-reliance when the circumstances allow for such is indoctrination.

A number of brief final remarks may be made. Firstly, the title of this paper could not have been 'Aristotle's philosophy of education' for obvious reasons. While that fact has some bearing upon the objective place of Aristotle in the history of philosophy of education, it does not necessarily diminish the importance of considering his thought in this area of history. Two factors bearing upon this importance can be mentioned: one is the significance of Aristotle in the history of philosophy, and the second is the possibility of employing his philosophical principles as guidelines in formulating educational policies and plans, even in areas of education where his own applications are unavailable. This perspective on the history of philosophy of education locates the philosophy of education, to some extent, in philosophy, especially concerning the use of first principles and methods of reflection. This tends to suggest that philosophy of education should be considered a branch of philosophy (as are philosophy of history and philosophy of law, for example) and that the (largely unwritten) history of philosophy of education could be developed in a manner somewhat parallel with the history of philosophy.

Secondly, the full significance of the direction and nature of the educational theory suggested here on the basis of selected philosophical principles of Aristotle might best be brought forth by a contrast with the nature and direction of the educational process as described by John Dewey, or, even better, as inferred from the principles of a logical positivist, such as A.J. Ayer. Contrasts of this sort would illustrate radically divergent possibilities in educational planning. These drastically varying educational ideals could be seen in relation to correspondingly differing philosophical perspectives on life and reality, which suggests the third of these final comments.

This paper exemplifies a particular mode of studying the history of philosophy of education, namely, through a process of philosophical reflection within the context of classical realism as a basis for ascertaining and organizing inferences relative to educational planning in circumstances where at least some of the relevant educational principles are absent from the primary sources.

Fourthly, Aristotle's influence in the history of philosophy has established him as one of the world's most outstanding philosophers and an educator of the Western world. Futhermore, despite the fact that there is no extant treatise of his on intellectual education, some evidence has been brought forth in his paper to suggest that it would not be entirely unrealistic to consider him among the most renowned of the seminal thinkers in the history of philosophy of education.

Lastly, there may be a growing number of American philosophers, educators, and philosopher-educators who would applaud an introduction (or a re-introduction?) not only of some Aristotelian answers, but especially of some Aristotelian questions, into American philosophy of education with the hope of disrupting its dogmatically analytic slumber.

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