Critical Review of the Dewey-Bode Applied Philosophy of Education, Part IV: The Personal Dimension of the Learner

Richard B. Wells

September 25, 2013

I. The Omission of the Personal Dimension in Dewey-Bode

Parts II and III of this series [Wells (2013b), (2013c)] reviewed and assessed the Dewey-Bode doctrine of education for the dimension of the learner-as-member-of-Society.[1] By strict logical ordering, one could reasonably presume Part IV to contain a similar treatment, merely shifting the focus from the social dimension of the learner to the dimension of the learner-as-a-free-person. Unfortunately, this manner of treating the topic cannot be followed. The reason is quite straightforward. The Dewey-Bode doctrine expends almost all its efforts dealing with the social dimension of the learner. The relatively little it contains that pertains specifically to the personal dimension of the learner subsists almost entirely within its doctrines of active learning and occupations-focused curricula. Its most applicable contributions are recognition of the phenomenon of active learning and of a requirement for subject-matter and instruction to be made apprehensible to the child through: connection with the child's state of experience; and the concepts and practical rules he has already come to construct in his previous experience.

When one looks for more specific teaching methods, subject-matter, or curricular elements attuned to the personal dimension of the learner, one finds that Dewey-Bode said very little about this that has not already been covered in the earlier papers in this series. Perhaps this is not too surprising. The principal recurring theme in Dewey-Bode is the tie between public education and social change. That this theme should orient the entire doctrine to the social dimension of the learner cannot be called unexpected. Although the Progressive Education Movement throughout the time it existed held Dewey in high esteem and almost venerated him as a patron saint, in point of fact by the 1920s Dewey's personal contribution to reform proposals or to the creating of a science of education had, for all practical purposes, come to an end. Others, e.g. William Kilpatrick and Harold Rugg, had taken up the mantle of public leadership in the Progressive Education Movement. Even Bode wrote,

> A quarter of a century ago, John Dewey published a pamphlet entitled *The Educational Situation*, which dealt in the main with the curriculum problems of that day. As measured in terms of educational history that time now belongs to the remote past. A great deal of water has gone over the dam during the twenty-five years that have elapsed. . . . Yet, in spite of all this advance, Dewey's essay is still a reasonably accurate statement of the educational situation. The central problem of the curriculum reaches down too far into the structure of our civilization to be changed overnight. [Bode (1927), pg. 25]

There had actually been far less real "advance" in education theory than Bode implies in this statement. If one goes by the *dictum* "silence implies consent," Bode seems to have regarded the innovation of differentiated curricula and the invention of the junior high school to have been among the "advances." In point of fact, the former was, and still is, an egregious enormity that institutionalized unequal education opportunity in the United States. The latter was created for the express purpose of tracking pupils into differentiated curricula in accord with the principle of the former. While there are some logistical and social-psychological advantages in segregating the middle age group of pupils from the younger ones in the lowest grades and the young adults in

[1] The author's prior works are posted on the Wells Laboratory website and are accessible free of charge at the following web address: http://www.mrc.uidaho.edu/~rwells/techdocs/.

the high school grades[2], whether or not the junior high school should be labeled a real "advance" is very debatable. As it was implemented, its social effects on public education have been devastating. It was designed to be an instrument of institutionalized bigotry [Wells (2013d)].

Dewey-Bode's focus on the learner-as-a-member-of-Society is made quite clear in Bode's summary of Dewey's theory. He tells us,

> It is sufficient for present purposes to mention briefly a few of Dewey's contentions. His central thesis is that educational problems and movements are a reflection of social changes. For a long period the education of the great masses of the population consisted of little beyond the three *R*'s. . . . Since that time education has changed greatly. . . . A new social order is in the making, which makes it necessary to develop a new system of education. We are shifting from an aristocratic to a democratic level. Processes of this kind are necessarily slow, in spite of all the surface changes that are going on, and for this reason the deepest problems of education remain substantially the same over long periods of time. [Bode (1927), pg. 25]

Bode is preaching to the choir here. The "new social order in the making" is the social order PEM reformers *wished* to bring about, not what was in fact happening in American Society. It is very important to bear in mind that the model for this "new social order" is nothing else than a variation of Plato's *Politeía* with its institutionalized caste system [Plato (*c*. 4th century BC)]. It challenges one's imagination to understand how Dewey, Bode, and the PEM could reconcile Plato's antlike communism with the social idealism that both Dewey-Bode and the PEM cherished, although I do not doubt they were sincere and had only the best of intentions. The vision for Deweyan "democracy" was supposed by the reformers to be one of a progressive and enlightened Society offering unlimited individual opportunity to all. Bode wrote,

> In a democratic scheme the social organization is not a device for thwarting and stunting the individual . . . but for furthering his development without assignable limit. In providing for flexibility of social organization education becomes not only a means for conserving the experience of the past but also an agency for progress and reform. . . . We no longer have a rigidly stratified society, and so we are ceasing to regard education as a means of preparing persons for a predetermined social and vocational status. [*ibid*., pg. 32]

In point of fact, prior to *circa* 1830 America never did have a "rigidly stratified society" compared to Europe, India, and the Far East. Social stratification *did* grow more pronounced following the Economy Revolution that began just after the French and Indian War. It grew more stratified still during the post-Civil War 'gilded age' of Carnegie, Rockefeller, Morgan, and others. The difference in the stratification of the 1920s was that the upper economic stratum was made up of non-agricultural businessmen instead of a planter aristocracy. Never before had the economic gap between the wealthiest and poorest Americans been wider [Wells (2013d)]. One might well wonder if Bode had been paying attention in class when he was a pupil taking U.S. history.

---

[2] I am confident some people will object to my calling high school pupils "young *adults*." But what *is* an "adult"? An arbitrary piece of legislation drawing some line at an arbitrary age of majority establishes a mere name-calling convention without in the least making any objectively grounded statements about what does or does not constitute adulthood. Alexander the Great commanded the Macedonian home army at age 16 and put down a tribal rebellion in northern Macedonia. At age 20 he became king of Macedonia after the assassination of his father and led the army that put down a rebellion of the Greek city-states. On a far less imposing scale, a few years ago I had a sixteen-year-old high school student working in my laboratory as a research apprentice. During that summer he produced more, more significant, and more original research work than was achieved by all ten college undergraduates and two graduate students working in my laboratory at the same time. Most Americans greatly underestimate what young people are capable of doing. The corporate *Personfähigkeit* of America pays a high price when parents suffer "empty nest phobia."

One can also only wonder if any of the PEM reformers thoroughly studied Plato's *Politeía*[3]. Whatever the answer to that may be, PEM reforms did in fact labor mightily and successfully to *institutionalize* an economic caste system that had been taking shape for fifty years prior to the 1920s. Bode described the schooling situation of the 1920s in the following way:

> The result of all this [social change] has been a need for an extensive reorganization of the schools. . . . Our general perspective underwent a change. So long as the curriculum consisted mainly of the three *R*'s the emphasis was all on discipline, thoroughness, and concentration. But now that we have become concerned about the enrichment of life our talk runs to such topics as interest, purposeful activity, and knowledge of the world in which we live.
>
> In the high school likewise there sprang up a need for reorganization. At the outset there was a sharp contrast between the elementary and the secondary school. In the former the basic concern was with the three *R*'s; in the latter the influence of the classical tradition made the emphasis fall on Latin, Greek, and higher mathematics. The demand for "rich new material" brought about a tremendous widening of the curriculum. The natural sciences, the social sciences, and modern languages secured a foothold; likewise courses in industrial arts, home economics, agriculture, commercial subjects, and the like. But this enlargement of the curriculum did not give unity and continuity to the school system. It simply brought the classical ideal of culture in juxtaposition with the ideal of "practicality." Neither of these ideals expressed the spirit of the democratic movement. . . . We have a problem with the curriculum, not merely because outward conditions have changed, but because education has started to move in a different direction. . . .
>
> This situation sets our problem, which appears to be at least three-fold. In the first place we have the problem of reorganizing the elementary school so as to secure realization for the rather vague demand for "enrichment of life." Secondly there is the problem of joining the elementary school with the high school in such a way as to secure a unified and continuous system of education, and thirdly we must deal with the problem of organizing the various curricula so as to prepare for membership in a democratic social order. [Bode (1927), pp. 26-28]

A couple of comments are in order at this point. First, while there were a considerable number of people who held precisely the opinions and assessments Bode runs through here, all these people were members of the Progressive Education Movement. What we read here is stated as if it were a fact (and there are facts contained in it), but what Bode is actually telling us is how PEM reformers assessed the situation. That there was a great *public* hue and cry for "life enrichment" instruction in the elementary schools simply isn't true. That there had been factional demand for more "practical" subject-matter is true. The industrial arts movement and other reform movements in the latter half of the 19th century had brought about the changes in high school curricula Bode mentions. The charge that these new courses were merely "juxtaposed" with the old-fashioned college-preparatory "classics" education is also true. Figure 1 lays out a general schema describing what a high school differentiated curriculum might look like in one of the larger urban high schools by the close of the 19th century. In the 1920s most Americans' formal education ended by the 8th grade. Those who went on to high school often choose the "English Department" curriculum if they did not plan to go on to college and the "Classical Department" curriculum if they did plan to go on to college. The system at the close of the 19th century was more or less a mating between the old New England model of public schooling and ideas that had

[3] It is one of the head-shaking wonders in the history of philosophy how *Politeía* ever came to be translated into English as "Republic." There is nothing whatsoever that is "republican" in Plato's "Republic." *Politeía* would be more accurately translated as "Body Politic." It gives one pause to wonder how attentively Greek was ever actually studied or taught in Great Britain or the United States.

19th Century High School Curricular Subject-Matters

General Subject-Matters			
1. reviews of preparatory studies	9. mensuration	17. natural philosophy	25. moral studies
2. physical geography	10. surveying	18. chemistry	26. etymology
3. history	11. navigation	19. geology and minerology	27. English literature
4. ancient geography	12. elementary bookkeeping	20. rhetoric	28. Hillard's First Class Reader
5. arithmetic	13. botany	21. logic	29. drawing
6. algebra	14. astronomy	22. political economy	30. vocal music
7. Davie's Legendre	15. higher astronomy	23. principles of government	31. German or French
8. plane and spherical trigonometry	16. physiology	24. mental philosophy	32. recitations and compositions

Classical Department	English Department	Normal Department
from general subject-matter list: 1-7,14, 16-17, 26, 28, 30, 32 additional subject-matters: Latin grammars; first and second Latin lessons; Latin prose composition, Andrew's Caesar; Johnson's Cicero; Bowen's Virgil; Andrew's Latin Lexicon; Anthon's Classical Dictionary; Crosby's Greek Grammar; Crosby's Greek Lessons; Arnold's Greek Prose Composition; Felton's Greek Reader; Boise's Xenophon Anabasis; Owen's Homer's Iliad; Liddell and Scott's Greek Lexicon	all general subject-matter topics	from general subject-matter list: 1-7, 12-14, 16-20, 23-30, 32 additional subject-matters: theory and practice of teaching; German and French (both optional)

Figure 1: Schema of high school curricular subject-matters at the end of the 19th century. A large high school in an urban area might offer all three departments. Small schools might offer only the curriculum of the Classical Department and only that part of the general subject-matters specific to a classical education. The Normal Department was the educational track for those studying to become teachers. At the beginning of the 20th century most teachers did not have more than a high school level of formal education. The specialized teacher's colleges, whether as part of a university or as a kind of junior college, had not yet become the standard method of training future public school teachers. Note that "English Department" meant something different from today's usage, *viz*. that the courses were all taught in the English language.

been developed from the model of Ben Franklin's Academy and others like it. What is not true is that the tactic of broadening the differentiation of curricula and systematically "tracking" pupils into specific curricular tracks beginning at the age of twelve achieves anything deserving to be called continuous or unified. But that is precisely what PEM reforms did.

The thesis Bode describes also had built into it the assumption that socio-economic conditions in America were primarily *quasistatic*. This presupposition is clearly put on display in the second quote above. If you make this supposition then in principle all you have to do is take a look at 'life as it is going on around you' and lay your plans for a "social education" accordingly. In practice, however, looking at 'life going on around you' is a tall order in a nation that spans a continent and in which, in the 1920s, roughly 45% of the population was still rural [Bureau of the Census (1976), Series A57-72, pg. 11]. Despite the U.S.'s large fraction of rural population, the Dewey-Bode doctrine and the reforms of the PEM were lopsidedly biased toward urban centers. There is also a contradiction built into Bode's thesis. On the one hand he wrote,

> One reason certainly for the great influence of Dewey's educational theory in this country is that this theory made a serious attempt to understand and to clarify the meaning of the democratic movement. Dewey's theory of enrichment of experience and preparation for membership in a democratic social order are brought together in a unified program. For Dewey all educational thinking leads back to the meaning of "social," just as all roads lead to Rome. Education from this standpoint becomes a process of initiating the child into spiritual membership in society. Consequently school must be patterned after real life, with such modifications and corrections as are necessary to expedite this process of initiation. . . A school of Dewey's kind is, first of all, a miniature social organization which is constantly

> widening its own understanding of itself. It maintains a constant attitude of inquiry and experiment and cooperation. Its rules and regulations, its discoveries and methods are constantly subject to revision. [Bode (1927), pp. 30-31]

This description of the school as constantly renewing itself is a very Hegel-like idea. In any case, it does not require much knowledge of psychology or very much practical experience in any work environment to realize that the sort of constant revision, modification, and correction Bode speaks of here is a practical possibility *only if* the conditions being adapted to do not change very rapidly. A not-so-quibbling additional observation is that *every* school, so long as it has more than one learner, is a "miniature social organization" of some kind. All you have to do is actually *look* at children and study their activities to see that a highly sophisticated child-Society forms with vivid spontaneity the moment the parent or the teacher avert their gaze. The issue is not one of making a school a miniature Society; the issue is how to orient that Society so that it forms in a way that leads to the integration of young people into the Society of their elders. Without a doubt that is what Dewey meant. It seems to be an issue taken too much for granted by PEM reformers in the 1920s and was being ignored wholesale by the mid-1930s when what is today called the custodial school paradigm began to emerge because of youth unemployment during the Great Depression.

The contradiction shows up a short while later in the same chapter. Bode writes,

> (In) a democratic society it is quite as important to prepare individuals to meet *changing* conditions and, moreover, to have a part in bringing about desirable changes. An outstanding trait of modern life is precisely its fluidity. The inventions and world events of the past half century have revolutionized our opinions and modes of living, and there is no reason to think that the future will be any more stable than the past. . . . Considerations of this sort again throw us back on the need of clarifying our ideal and of transmitting our racial experience in such a form that it will be of maximum service in dealing with new problems and in creating new aims and new opportunities as we go along. [*ibid*., pg. 35]

What he says here about preparing "individuals to meet changing conditions" is quite correct. But by admitting that changes in the socio-economic situations of a Society are fluid and not stable enough to be reliably predictable, it follows that trying to predict these in an ideal, much less trying to do so in the closed Society of Salomon's House[4] the National Education Association tried to become, is hopelessly impractical. The social changes Bode is talking about had indeed been present for fifty years, but the *onset* of these changes had been much more rapid than that. That there had been decades of *lag* between their onset and the beginning of the Progressive Education Movement demonstrates that the system of schooling itself could not, or at least did not, change rapidly enough to stay abreast of socio-economic changes. Bluntly put, the real key issue is for public education to prepare *individuals* to adapt to changing circumstances, not to have the schools attempt to *lead* these changes. But it was the latter the PEM was attempting.

Much of what was actually implemented in the differentiated curricula placed the entire focus *outside* the pupils as individual human beings, ends-in-themselves, and the real agents of future socio-economic change. It forsook the cultivation of their skills for adapting to changing circumstances, and gave the curriculum over to almost entirely the sort of static "isolated" instruction Dewey so strongly denounced. If the process of self-renewal of the school Bode speaks of above is to have any chance to be workable, what constitutes the centering of schooling can only be something that does not change rapidly. That *actually* static Object is ***human nature***. The PEM lost sight entirely of the personal dimension of the learner in its eagerness to bring about a somehow-"democratic" version of Plato's antlike communism. Bode, however, did not lose sight of it. He warned,

[4] Francis Bacon (1624) *The New Atlantis*, Seaside, OR: Watchmaker Publishing, 2010.

> But the notion of a democracy requires a system of education that will prepare for duties and tasks that cannot be foreseen since the social organization is expected to change indefinitely. Viewed from this standpoint the business of education appears to involve a variety of divergent and even conflicting demands. In the first place, it must be recognized that the older forms of education were by no means wholly wrong in the notion that people must be trained for specific duties and obligations. Our modern life has become so complicated and technical that the need of vocational training has become more imperative than ever. . . .
>
> Having made this concession, however, we seem to encounter certain limiting considerations. A second demand that is made on education nowadays is that it must avoid the danger of sacrificing the individual to his job. This was done more or less ruthlessly in the old days when the individual was not expected to depart very far from the type of vocation and general mode of living of his parents. Such a system was likely to convert an indefinite number of "mute inglorious Miltons" into an inferior kind of cobblers and carpenters. A consideration of this sort tends to make the emphasis shift from training for vocation to the discovery of capacity. . . .
>
> This leads us to a third demand. Even the most ardent advocates of vocationalism are disposed to concede that education must do more than develop efficiency in a given vocation. The vocational training must have a certain background so as to provide for adaptation and growth. Similarly our prevocational education is expected to do considerably more than to reveal the pupil's preferences and capacities. When the choice of a vocation is finally made the pupil is supposed to have a fund of information and training that will be of service to him in his more specialized activity. In other words, the pupil is expected to get at least a sort of general introduction to the organized experience of the race as represented by the various subjects in the curriculum.
>
> How are these various demands to be reconciled and combined into a unified program? There is reason to think that much of the one-sidedness and confusion in our thinking could be eliminated by a more careful consideration of the nature and function of what we sometimes call the "logical organization of subject matter." It is not claimed that such a consideration will furnish a solution to every problem, but it is indispensable for the formation of an adequate educational program. [Bode (1927), pp. 44-46]

Bode did not know precisely how to accomplish the reconciliation he speaks of here. Much of what is found in the pages of *Modern Educational Theories* is probably best described as a preliminary search for how to go about discovering a workable reconciliation method. It was no small feat just to recognize the three-fold opposition of contraries he writes about in this quote. The PEM, unfortunately, clutched Bode's first consideration to its breast, ignored the second, and responded to the third with a vigorous but ill-founded battery of tests that attempted to "reveal" a pupil's "preferences and capacities" so that he could be properly "tracked" into a curriculum not of his own choice but, rather, according to what educologists had labeled him to be "innately suited" to understand. The first promoted caste, the second enabled the third. It put the public education of the nation squarely on a course of overspecialization that Dewey and Bode both opposed, and it hindered Progress in *Personfähigkeit* for both the individual and Society overall.

II. Corporal Education

It is true that an applied metaphysic is not the empirical science it grounds. It is an unrealistic expectation to suppose that Dewey-Bode should have provided in its doctrine those empirical details of methods and elements that make up an empirical science of education. On the other hand, it can only reflect a sort of institutionalized lack of self-esteem within the community of philosophers when a philosophical doctrine limits itself to merely admiring the problem rather than trying to organize an approach for its solution. Philosophy is not a tavern for bandying opinions about. Dewey-Bode can be accused of admiring the problem and neglecting its solution.

When a philosophy is ontology-centered, as Dewey-Bode is, sooner or later its implications are going to smash headlong into antinomies and empirical contradictions, and it will become lost in the whirling spiral of a transcendental dialectic of Ideals, just as Kant warned [Kant (1787)] and the example set by Hegel demonstrates. It is only a question of whether these happen *sooner* vs. *later*. There is no way to tell if this would have befallen Dewey-Bode later rather than sooner if it had completed a positive doctrine to go with the problem analysis it does provide. We can, however, take a look at how it stands relative to the epistemological functions deduced by the Critical applied metaphysic of public education [Wells (2012a)].

The phenomenon of human understanding is practical at its roots. The root meanings of every concept – the fundamental level from which more sophisticated or abstract meanings proceed – reduce to the assimilation of objective perceptions in sensorimotor schemes. This is a theorem of mental physics empirically supported by sixty years of child developmental psychology research conducted by Piaget and his coworkers. Empirical evidence for this is provided by studies of the mechanisms of perception [Piaget (1969)], cognizance [Piaget (1974)], moral realism and rule cognizance [Piaget (1932)], and instrumental behavior [Piaget & Garcia (1987)]. Near the end of his life, Piaget drew from his studies the conclusion that,

> As a conclusion, we shall classify the various forms of meanings and meaning implications. To begin with, the simplest are the meanings of predicates. They may be defined as the similarities and differences between one property observed in an object and other predicates that are recorded simultaneously or already known. . . .
>
> It follows than an object is a set of conjoined predicates and its meanings amount to "what can be done" with it, and is thus an assimilation to an action scheme (whether the action is overt or mental). As for actions themselves, their meaning is defined by "what they lead to" according to the transformation they produce in the object or in the situation to which they are applied. Whether we are dealing with predicates, objects, or actions, their meanings always implicate the subject's activities, which interact either with an external physical reality or with elements that were previously generated by the subject such as logico-mathematical entities. . . .
>
> If all truth is based on meanings, and if all forms of meanings consist in attributions of schemes to either predicates, objects, or actions, then clearly there could be no such thing as an isolated scheme or meaning. Rather, there are always multiple relations among them. This means that at all developmental levels, no matter how primitive, all knowledge has an inferential dimension, however implicit and elementary it may be. To put it another way, using a meaning always presupposes and entails using some implications. . . .
>
> The import of this definition of meaning implication is that, since any action, in addition to its causal aspect (i.e., its being actually carried out) has a meaning, there must be implications between actions, that is to say between meanings. This is a fundamental reality, going far beyond the realm of implications between statements, and manifested from the beginning of what we have called the logic of actions, which is the necessary basis of operational logic. [Piaget & Garcia (1987), pp. 119-120]

Piaget's work, being empirical, could not "get beneath" what was observable in behaviors to offer a deeper explanation of mechanisms responsible for this nature of meanings. The mental physics of the phenomenon of mind, however, does provide this more fundamental understanding of mechanisms. It is found in the structure and co-operation of the processes of judgment, the process of practical appetition in pure practical Reason, and the cycle of judgmentation [Wells (2009)]. The mathematics of motivation and judgmentation leave no doubt about the veracity of Piaget's conclusions and teach us that the nature of meanings and meaning implications can have no other objectively valid understanding than that which Piaget stated.

Because root meanings are the result of the assimilation of perceptions into action schemes,

because action schemes are representations in the manifold of rules in pure practical Reason, and because all action schemes take their *materia* from the coupling of motoregulatory expression and sensorimotor receptivity, the importance of corporal educational Self-development to educational Self-development activities of every other kind can hardly be overemphasized. Even though the duration of his lifetime was still not long enough to give Kant time to begin the development of mental physics (much less found a natural science of education) he nonetheless seems to have come within sight of the basic importance of the role corporal education. He tells us,

> The positive part of physical education is *cultivation*. In this respect the human being differs from the animal. [Human cultivation] subsists above all in the exercise of his mental powers. Therefore, parents must give their children opportunity for it. The first and foremost rule here is that one must do without all tools as much as possible. Thus leading-strings and go-carts should be done without right from the beginning, and the child should be allowed to crawl about on the ground until it learns to walk by itself . . . That is to say tools only ruin natural dexterity. Thus one uses a string to measure a width, but this can be managed just as well with the eye; one can by position of the sun determine the time, alternately to a clock; one can know his whereabouts in the forest by the position of the sun during the day and that of the stars at night, alternately to a compass. One can even say that instead of using a boat to go on the water, one can swim. . . . It comes to merely cultivating natural aptitude. Often it takes informative instruction, often the child itself is inventive enough or it invents instruments itself.
>
> What should be adhered to in physical education, that is in view of body, relates either to the use of voluntary movement or to organs of sense. What comes first with the former is that the child should always help itself. That takes strength, dexterity, agility, certainty. [Kant next proceeds to list a number of games as examples of physical education exercises and comments on benefits these potentially have for mental cultivation].
>
> For the sake of these games the boy will deny himself other wants, and thus learn little by little to do without other things as well. Moreover, he will thereby become accustomed to continuous occupation. But for this reason the games must not be mere games but games with design and purpose. [Kant (1803), 9: 466-468]

If you wish your child to become skilled in mathematics, I think you are better advised to buy him an abacus instead of an electronic calculator. Two things I have noticed over the years that mark differences between my graduate students from mainland China and those raised in the U.S. are: (1) my Chinese students have often exhibited much better mathematical intuition; and (2) the Chinese students first learned their basic arithmetic using abaci, whereas the U.S.-raised students used calculators. I think the pertinence of this observation to what Kant tells us here is obvious enough that I need not comment further. Computers are no substitute for observing and thinking.

Dewey also seems to have recognized the fundamental linkage that exists between corporal educational Self-development and later proficiency in understanding and meaning for abstract or symbolic material. He tells us,

> We are thus met by the danger of the tendency of technique and other purely representative forms to encroach upon the sphere of direct appreciations; in other words, of the tendency to assume that pupils have a foundation of direct realization of situations sufficient for the superstructure of representative experience erected by formulated school studies. This is not simply a matter of quantity or bulk. Sufficient direct experience is even more a matter of quality; it must be of a sort to connect readily and fruitfully with the symbolic material of instruction. Before teaching can safely enter upon conveying of facts and ideas through the media of signs, schooling must provide genuine situations in which personal participation brings home the import of the materials and problems which it conveys. . . .

> In the outline given of the theory of educative subject matter, the demand for this background of realization or appreciation is met by the provision made for play and active occupations embodying typical situations. Nothing need be added to what has already been said except to point out that while the discussion dealt explicitly with the subject matter of primary education, where the demand for the available background of direct experience is most obvious, the principle applies to the primary or elementary phase of every subject. The first and basic function of laboratory work, for example, in a high school or college in a new field is to familiarize the student at first hand with a certain range of facts and problems – to give him a 'feeling' for them. Getting command of technique and of methods of reaching and testing generalizations is at first secondary to getting appreciation. As regards the primary school activities, it is to be borne in mind that the fundamental intent is not to amuse nor to convey information with a minimum of vexation, nor yet to acquire skill – though these results may accrue as by-products – but to enlarge and enrich the scope of experience, and to keep alert and effective the interest in intellectual progress. [Dewey (1916), pp. 254-255]

What Dewey tells us here echoes what Kant said about "design and purpose" above. Corporal instructional education in the dimension of the learner-as-a-member-of-Society stands at a higher intellectual level than corporal education in the dimension of the learner-as-a-free-person. This is because social schemes are relational – that is to say, they are schemes of community – and all practical rules of this sort contain within them schemes of personal meaning implications that serve as Objects within their practical predications. Corporal education in the personal dimension of the learner is a field in which almost everything remains to be scientifically developed. It has received very little attention and even less appreciation in the history of education theory. To be fair to Dewey, Bode, and the 20th century Progressive Education Movement, the psychology of the development of intelligence needed to guide the scientific development of corporal education simply did not exist at the time PEM reforms were being attempted. Neither did the theory of mental physics yet exist, and therefore adequate scientific knowledge of mechanisms of learning was simply not available to the reformers.

Among other things, lack of this knowledge left educologists open to charges of frivolity when they proposed or tried out experimental new corporal education techniques. Not being able to scientifically explain precisely how these techniques empowered the learning of mis-called 'basic material,' the experimenters were unable to counter ridicule by their detractors. I will say that few bits of cultural dogma have proved to be more harmfully misused, to the detriment of education, than this excerpt from Paul's letter:

> When I was a child, I spoke as a child, I understood as a child, I thought as a child; but when I became a man I put away childish things. [I Corinthians 13: 11]

The development of foundational corporal education has always suffered at the hands of those who think school time spent in physical education (especially play and games) is wasted time. But I say that the man who prides himself on having 'put away childish things' should know that he has not. Deep beneath all your adult sophistication and wisdom, primary corporal lessons of childhood are still there, still at work, and still exerting root-level effects on the superstructure of your adulthood. Within the man, the boy is never extinguished. Ask any old wife.

In scientifically developing techniques and subject-matter for corporal education, scientists must not lose sight of Kant's injunction that these be founded in purposive design. The first axiom of corporal education (figure 2) is the existence axiom [Wells (2012a), chap. 6, pp. 182-183]. This axiom pertains to the orientation of perceptions in sensorimotor experience. It states: *there are actual physical expressions of behavior that are educational activities for promoting Progress in the physical power of a person* (physical *Personfähigkeit*). The scientific task at hand

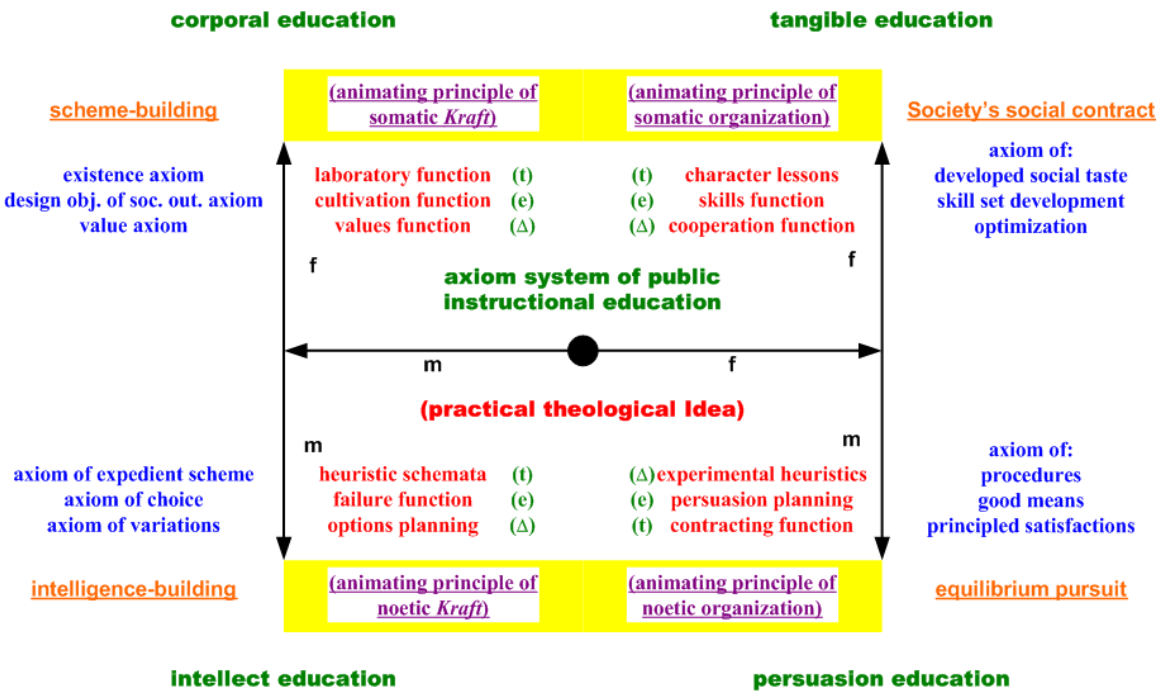

Figure 2: Axiom system of public instructional education at the second level of analytic representation.

is to identify and develop specific curricular and methodological instruments that actualize these expressions and achieve the practical orientation demanded of *public* education under the social contract. The education function in the personal dimension of the learner is *inclusion in the curriculum of physical exercises that are designed to teach the learner how to employ the physical capacities of his body in building sensorimotor schemes by which he can master any craft involving the kinds of physical objects he can reasonably be anticipated to encounter in life*. I stress that little research and no fecund scientific development of this function has been done to date, and that much work is required. It will not do to jump immediately to reforms based on judgments of taste or fads of misused pop psychology. That was one of the errors committed in the PEM reforms of the 20th century.

The second axiom is the design-objectives-of-social-outcomes axiom [*ibid*., pp. 183-187]. It pertains to practical acquisition of behavioral schemes cultivating social-chemical bonding relationships and hindering habituation of behavioral schemes that cultivate antibonding relationships [*ibid*., chap. 2]. Whether a craft be a physico-technical craft or a social craft, the learner's scheme-building development is promoted by his social relationships and hindered to the extent that schemes are developed in isolation from association with others. Empirical examples of this which are quite instructive are provided in Piaget's study of the development of moral judgment in children. He found [Piaget (1932), pp. 29-50] that the extensive scope of a child's practices expands tremendously, becoming less depend upon capricious subjective judgment and more centered upon objective judgments, as the child's experience becomes increasingly socialized. The pertinence of Piaget's work for our current consideration is less involved with the child's moral judgments *per se* [5] than with the observations Piaget records that demonstrate how the children advanced in their craftsmanship skills as they advanced in their socialization skills. An implication this suggests is that competitive contests of skills can be made vehicles for corporal education in the personal dimension of the learner if the contests are properly designed.

[5] and, indeed, there are some problems with Piaget's theory of moral judgment. I have discussed these in *The Idea of the Social Contract* [Wells (2012b) chap. 5, pp. 133-138].

These Piagetian examples provide one starting point in empirical phenomena for scientific development of the corresponding function. This is the *art cultivation* function [*ibid*., pp. 191-194]. This function calls for designs of corporal activities aimed at cultivating notions of how-it-is-to-be-done. I probably need not stress that this design task belongs to scientific educology and is not something to be left for the learners to develop for themselves. "How it is to be done" and, by implication, "how it is *not* to be done" at rudimentary levels relies upon social feedback to de-center it from the individual learner's natural egocentrism and judgments of taste.

The final axiom of corporal education is the value axiom [*ibid*., pp. 187-188]. This axiom pertains to educational Self-development activities guiding the formation of meaning implications that orient and produce the learner's value system. Dewey gave an empirical description of value that is congruent with the mental physics of validation, valuation, and value:

> To value means primarily to prize, to esteem; but secondarily it means to apprize, to estimate. It means, that is, the act of cherishing something, holding it dear, and also the act of passing judgment upon the nature and amount of value as compared with something else. [Dewey (1916), pg. 260]

Dewey devoted some effort to drawing a distinction between "intrinsic value" and "instrumental" or "extensive" value. However, these ideas he presented as mere labels attached to associated objects, and so these ideas of his are not Critically basic. There are some serious errors in Dewey's ontology-centered speculations about 'value,' but not in his tying of appreciation to value in the context just quoted. For educology, the Critical explanation of validation, valuation, and value in mental physics is the proper grounding for the educology of 'value' and 'appreciation.'

The practical scientific issues with applying the axiom lie with ensuring that the rudimentary schemes the learner develops are oriented not merely to produce skills but to produce *habituated exercise* of skills in a *civic* manner. One can, after all, use a hammer to pound a nail; but it can also be used to pound a skull – an exercise of skill that is, to put it mildly, a socially unacceptable exercise of skill (outside of some contexts of military and law enforcement applications). The education function in the personal dimension is the corporal civic values function: *inclusion in the curriculum of a suite of designed exercises in scheme-building that produce in the learner a value structure according to which he becomes willing to pledge himself to Duties-to-others according to their situations* [Wells (2012a), chap. 6, pp. 194-195]. Recall that the social contract justification for *public* education is the production of good citizens. Whatever personal benefits a learner obtains from public education are in vain for Society if his education only serves to help him become a skilled deontological outlaw or criminal. But all Duties (which are Objects of the manifold of concepts) originate from Obligations (which are representations in the manifold of practical rules). Socially oriented Obligations therefore fall under corporal education for the setting of foundations for mutual Obligation and reciprocal Duty.

Although active learning, active experimentation, and non-textbook educative experiences are all recurring themes in Dewey-Bode, the doctrine itself presents no concrete corporal education proposals. This was left for the Progressive Education Movement to attempt. There it took the form of what were generally known as "project methods." The most familiar and widely used of these approaches was that of William Kilpatrick, who was a former student of Dewey's and one of the main leaders of the PEM. Dewey, who was by then primarily an onlooker, seems to have generally endorsed Kilpatrick's project method. Bode was more cautious about this reform:

> It has been said, with some justice, that education is a breeding place of fads and fancies. All sorts of notions spring from its soil to enjoy a brief popularity and then disappear again. Perhaps all of us at some time or other have followed some Moses who promised to lead us to the promised land by a direct route, only to find that the trail came to an end in a blind

> alley, from which we had to find our way back home alone. The result is naturally that we have grown a bit more cautious. We do not respond so readily perhaps. The project method is a case in point. We haven't quite made up our minds about it. Is this method a genuine discovery, a new principle, or is it merely another false alarm?
>
> This question is not one that can be answered offhand. We are met at once with the difficulty that it is not easy to decide what is meant by the project method. Is it a method of teaching or a method of curriculum construction? Some writers say that it is chiefly a method of curriculum construction. . . . Another writer . . . identifies projects with what he calls "central teaching units" and says that these units should be organized as much as possible to be like things in everyday life but they do not need to be practical. The purpose need not be to do something but to learn something. A third writer, Kilpatrick, says, or seems to say, that "project" does not refer to organization or material at all. Anything may be a project, regardless of how it is organized. Whether a given task or undertaking is a project or not is determined by the pupil's attitude toward it. . . . From this standpoint the term project seems to be pretty much identical with interest. [Bode (1927), pp. 141-142]

Bode devotes a full chapter to review and criticism of project method approaches and views [Bode (1927), pp. 141-167]. In it he points out important advantages to be gained from a project method approach along with important limitations and disadvantages of it. One thing he stressed was that there was no one consistent practical or operational definition of exactly what a 'project method' is. Bode offers his own description, which he calls 'the method of instrumental learning':

> In a real project the connection between studying and carrying on the job must be sufficiently close so that the job determines directly what is to be studied and gives an opportunity to try out the new knowledge from time to time. The studying and the job must proceed abreast.
>
> When this relationship is maintained the studying or learning is clearly instrumental to a further purpose, and this fact puts us on track of a definition. . . . The project method, in this application, is the method of *instrumental* or *incidental learning*. [*ibid*., pp. 148-149]

Bode does not develop this idea sufficiently, but the general flavor of his examples of projects seems to suggest that a proper method must strike a well-designed balance between 'logically organized traditional material' (e.g., traditional chemistry or physics instruction) and a hands-on laboratory, workshop, or field task in which 'academic' material has to be studied in conjunction with getting the application project to work. Bode was very critical of Kilpatrick's idea, calling his project method approach one in which

> the emphasis on initiative and purposive activity frequently suggests a mystic faith in a process of 'inner development' which requires nothing from the environment except to be left alone. But as Dewey remarks, thinking requires suggestions from somewhere other than the recesses of [the pupil's] inner consciousness. [*ibid*., pg. 163]

However, even Bode's analysis makes it clear that no project method, as was being proposed at the time, directly recognized the corporal factors of scheme-building in which subsists the *actual* practicality of an instructional approach involving the use of projects. These factors, which are the real targets of corporal education, are altogether missed in Dewey-Bode.

III. Intellect Education

The general remarks concerning intellect education made in Part II of this series [Wells (2013b)] continue to hold in the personal dimension of the learner. The Dewey-Bode doctrine is not without pertinent observations touching upon the functions of intellect education in the personal dimension of the learner but, as noted in Part II, the doctrine stops short of treating the

functions themselves.

The metaphysical axioms were discussed previously in Part II and are presented in greater technical detail in Wells (2012a), chap. 7, pp. 198-228. The first of these is the axiom of expedient schemes: for every manifold of Desires presented by the process of reflective judgment there is some practical scheme in the manifold of possible schemes of motoregulatory expression associated with it by which the condition of equilibrium can be satisfied. In the personal dimension of the learner the corresponding function is the **heuristics of technique** function: ***provision in the curriculum of exercises through which the learner practices developing his ability to construct heuristic procedures applied to physico-mathematical objects***. A core focus on cultivating the learner's development of heuristic procedures answers Bode's concern noted earlier about the unforeseeable nature of future changes in the environment of Society. It does so by changing the focus of public intellect education from an immediate concern with existing and established knowledge, techniques, and tangible skills to a focus on the power of individuals to *develop* techniques and skills as the need for them comes to be felt and realized.

This does not downplay the contribution and usefulness of the study of topics contained in the body of standard subject-matters that have traditionally been covered in the usual coursework divisions (e.g., history, science, mathematics, etc.). Quite to the contrary, the topics studied serve a vital purpose because they are exemplars of past accomplishments. All human beings come to the acquisition of new and more abstract generalities through concepts of more particular examples. **We all learn *from* particulars *to* generals** [Wells (2009), chap. 6]. Only *after* a general concept has been recognized in a person's manifold of concepts can he connect this concept to additional lower particulars by means of the synthesis of an episyllogism. Generalization *only* occurs by means of the synthesis of a prosyllogism [Wells (2011)].[6] For this to be possible the learner must be taught particulars that empower generalization as aliments of understanding.

Dewey-Bode's emphasis on learning-by-doing is congruent with this function. Where the doctrine falls short of actually reaching the function is that it does not recognize that construction of heuristic procedures *is a core focus* for the rational part of intellect education. I stress, though, that learning-by-doing does *not* mean textbook study has no role. It has a very key role because classical learning-by-reading expands the learner's scope of possibilities and serves to free him from what Piaget called pseudo-necessities [*op. cit*. Wells (2012a); Piaget (1981)].

The second axiom is the axiom of choice, which states that chosen actions are always non-contrary to the actor's practical value system. All choices can only be really validated or invalidated *ex post facto*. These determinations are made on the basis of *discovering* unity or disunity between Desires and the individual's manifold of practical laws. Good choice in the determination of appetitive power (in practical Reason) means that the expressed action results in progress toward real negation of the feelings of *Lust* and *Unlust* in aesthetical reflective judgment. This is because negation of feelings of *Lust* and *Unlust* judicially defines equilibrium.

[6] Inadequate recognition of this fact is, among other things, a principal factor in the generally inadequate accomplishments of mathematics instruction at all levels of education in the United States (especially the college level). It is the great flaw in a pedagogy that has become standard in mathematics textbooks since the 1950s as an outcome of what is known as the Bourbaki movement. Widely noted declining mathematics competency in the U.S. is caused, at the root, by this *unnatural* pedagogy. However you might feel about formalism in mathematical proofs, the flawed rationalist pseudo-metaphysic underlying Hilbert's doctrine is, as Henri Poincaré once said of the logicians' program, "contrary to any healthy psychology" when it comes to *teaching* mathematics to all but the tiny population of graduate students planning to become original mathematics *researchers*. To my colleagues in the math department I say: You *know* Gödel's theorems put a stake through the heart of what Hilbert was trying to accomplish. Please stop making the rest of us pay for Hilbert's failure. Your civic Duty as educators demands this.

The function associated with this axiom is the **non-frustrating technical failure** function: ***inclusion in the curriculum of non-frustrating failure experiences involving physico-mathematical objects***. The technical meaning of the word "failure" was discussed in Part II. The old aphorism, "practice makes perfect," is a reflection of the educative value of non-frustrating failure experiences.

The relevant topics within Dewey-Bode pertaining to this function are Dewey's discussion of the topic of "practice" and the thesis of active learning [Dewey (1916), pp. 290-296]. Although Dewey did discuss "practice," he limited his discussion to criticism of historical notions and philosophies about it. He did make an *en passant* comment touching upon the function:

> Experience itself primarily consists of the *active* relations subsisting between a human being and his natural and social surroundings. In some cases, the initiative in activity is on the side of the environment; the human being undergoes or suffers certain checkings and deflections of endeavors. In other cases, the behavior of surrounding things and persons carries to a very successful issue the active tendencies of the individual, so that in the end what the individual undergoes are consequences which he himself tried to produce. In just the degree in which connections are established between what happens to a person and what he does in response, and between what he does to his environment and what it does in response to him, his acts and the things about him acquire meaning. He learns to understand both himself and the world of men and things. Purposive education or schooling should present such an environment that this interaction will effect acquisition of those meanings which are so important that they become, in turn, instruments of further learnings. . . . It is not the business of the school to transport youth from an environment of activity into one of cramped study of the records of other men's learning; but to transport them from an environment of relatively chance activities (accidental in the relation they bear to insight and thought) into one of activities selected with reference to the guidance of learning. . . . It remains to grasp the principle with greater firmness. [Dewey (1916), pp. 299-300].

The last sentence of this quote alerts us to the incomplete state of Dewey-Bode doctrine. Active learning is nonetheless the primary Dewey-Bode contact point with the Critical function.

The third metaphysical axiom of intellect education is the axiom of variations. It states: Learning is based on discoveries of compensations for disturbing factors that do not involve type-α compensation behavior but, on the contrary, negate the disturbance through a series of scheme adaptations converting disturbance factors into mere variations dealt with by modifications or variations of the original action scheme. Compensations of this kind are called type-β compensations. Behaviors exhibited in type-α compensation are behaviors of ignorement (ignórance); the disturbing factor is cancelled either by physically removing it (if it is a physical object) or by ignoring it (if it is a mental object). In type-β compensation behavior, the disturbing factor is not ignored or canceled; instead it is assimilated into a scheme by accommodating the scheme to deal with it. It thereby becomes merely a variation in the class of objects having root meanings implicated by the accommodated scheme [Piaget (1975); Wells (2012a), pp. 221-224].

The educative function in the personal dimension of the learner under this axiom is called the **civics planning function**. *Planning* is *devising a scheme for doing, making, or arranging something*. When the learner's behavior rises above the level of the type-β compensation, planning involves anticipating (forecasting) variations, coordinating some number of schemes as means for achieving a purposive end, and ignoring factors that do not materially hinder accomplishment of the purpose. Behaviors of this type were called "superior" compensations by Piaget [*ibid*.] and are denoted as type-γ compensations. Type-γ is a synthesis of type-α and type-β compensations.

The function is called the *civics* planning function because the mission of public instructional education is tasked with not only cultivating the learner's ability to develop procedural schemata

but cultivating him in such a way that he learns to habitually limit his chosen actions to those that are congruent with his *civil* liberties under his Society's social contract, eschewing the full exercise of what is possible for him within the scope of his *natural* liberties. As a simple example, one way of dealing with a persistent pest is to kill the pest. If the pest is a housefly such an action is within the scope of your civil liberties to carry out. If the pest is your next door neighbor, the action might be within the scope of your natural liberties (that is, you are physically capable of doing it) but it is an action forbidden to you within the scope of your civil liberties.

The function itself is ***inclusion in the curriculum of exercises that stimulate the learner's development of procedural schemata applied to technical objects***, i.e., physico-mathematical objects outside the scope of social situations. Objects of the latter type are objects falling under the social dimension of the learner and belonging to the *civil* planning function of intellect education. The Dewey-Bode doctrine did not, and could not have been expected to, properly recognize the civics planning function. This is because the design of the required exercises requires an understanding of procedural schemes and procedural schemata [Wells (2012a), chap. 7, pp. 224-227]. This knowledge did not yet exist in Dewey's and Bode's days. Neither did the Dewey-Bode doctrine adequately recognize and treat the *teaching* of planning skills. Rather, the doctrine left these skills to 'emerge naturally' as a result of active learning and experimentation.

The planning functions of intellect education both work to extend the sphere of the learner's schemes by eliminating what Piaget termed "pseudo-necessities" [Piaget (1981)]. A pseudo-necessity is a presentative scheme that has not been coordinated under a procedural schema [Wells (2012a), pg. 226]. Phenomena implicative of pseudo-necessities are easily observable in young children [Piaget (1981)] and actions of pseudo-necessitation bespeak of a primitive state of intelligence insofar as the scope of the particular objects and circumstances of the pseudo-necessitated actions are concerned. All of us carry into adulthood some number of pseudo-necessities that survive the lessons of childhood. Many of these remain fixed in the habits we form for dealing with problems and situations until (and unless) someone shows us an example of some other way to solve a problem or deal with a situation. Toynbee disparaged this normal human habitual behavior as "mimesis," bemused adults disparage some learning exhibitions of pseudo-necessity elimination by children as "monkey see, monkey do," and the jargon of present-day self-help literature calls the elimination of pseudo-necessities "thinking outside the box."

Even though a scientific understanding of presentative schemes and procedural schemata had not yet been attained in Dewey's day, the omission of planning functions in Dewey-Bode is still, in one context, quite curious. Specifically, Dewey's remark about "transporting the learner from a chance learning environment to a guided learning environment" is contrary to tacitly presuming that planning skills *with desirable characteristics* will 'naturally emerge' by accident of learning. Human beings do develop the ability to plan to at least a rudimentary level (and some people develop these skills to a high level of intelligence). But unless planning skills are deliberately cultivated in the learner, the skills he does develop are left to accident of circumstance, hence to Dewey's "chance learning environment." It does not require great insight to see that planning skill is a typical aspect of the exhibition of intelligence. It follows that the total omission of planning exercises in Dewey-Bode must be accounted a preventable shortcoming in the doctrine.

IV. Tangible and Persuasion Education

There is little to add here in part IV to the topic of tangible education that has not already been covered in part III, and nothing at all to add on the topic of persuasion education. For the latter, it was noted in part III that Dewey-Bode doctrine overlooks the division of persuasion education entirely. For tangible education, not much is found in it to augment, for the personal dimension of the learner, the general points discussed in part III.

The first metaphysical axiom of tangible education is the axiom of developed social taste:

Learner tastes are formable through instructional activity [Wells (2012a), chap. 8, pg. 235]. Judgments of taste are subjective. The axiom teaches that the corresponding function in the personal dimension of the learner aims at cultivating the learner's choices that concern how he elects to 'find his place in Society.' The corresponding function is called the **lessons of vocation** function: ***inclusion in the curriculum of lesson-matters pertaining to developing the learner's personal vocational tastes*** [*ibid*., pp. 235-236].

The Critical applied metaphysic uses the word "vocation" in its original connotation of "one's calling in life." Vocation refers to a person's *developed* intellectual appetites in the process of appetition in practical Reason. The craft a person chooses to practice in pursuit of obtaining tangible economic goods he needs to support himself and his family is only one aspect associated with the general idea of vocation. Indeed, economic enterprise has only a mediate, not an immediate, connection to vocation. Many people do in fact choose to labor in enterprises they dislike for a variety of reasons. The most common ones are: (1) the person knows no other means by which he can fulfill his Duties to himself in regard to his situation; and (2) the person engages in the enterprise because of Self-commitments made *obligatio externa* to reciprocal Duties of his personality with regard to the situations of others.[7]

As for these reciprocal Duties, the most common ones are grounded in Obligations pledged to that special personal society called one's family. They take several forms. The most common one comes into play when a person marries or takes a common law spouse and begets children who must be provided with economic support in the form of tangible economic goods in order that they may survive.[8] The next most common form comes into play when a person's parents or other older family members press him with his family's expectations, e.g., "we want you to become a doctor," "our family has always been in the banking business," etc. The third most common form arises when a person makes it a Duty to support other members of his pre-marital family, such as when one or both parents die leaving it to an eldest or healthiest child to support siblings or when an aging or infirm parent can no longer support him- or her- self without assistance.

In these cases, the sort of enterprise an individual chooses to engage in might have very little or even nothing to do with his ideas of personal tastes of vocation. One can reasonably guess this is the situation of a person if he says he "had no choice" but to engage in the enterprise with which he occupies himself. In fact every person always has options he could choose by the power of his *natural* liberties; the phrase actually means nothing else than that his chosen enterprise is the most optimal choice he saw as possible and consistent with his practical Obligations and the civil liberties he commits himself to observing within his personal society.

Critically, vocation *per se* is something else than this. The word comes from the Latin *vocatio*, which in turn derives from the verb *vocare*, "to call." The pertinent dictionary definition is "a call, summons, or impulsion to perform a certain function or enter a certain career." To describe a vocation as a call or a summons is a mystical analogy. To describe it as an impulsion comes closer to the core of the matter because, judicially, vocation is an affective perception that has been associated with some Object. The object might be one associated with meaning implications symbolizing the possibility of happiness or it might be understood in an association composed with a Quality of subcontrarity in a determinant judgment, by which the object is held to be non-satisfactory in regard to the affective perception – e.g., "I don't know what I want to do with my life, but I know I want something other than *this*." Often we tend to think of vocation in a positive sense, e.g., "I always *knew* I wanted to enter the priesthood," but choosing to fulfill a Duty from a sense of *obligatione interna* (a "duty of conscience") is a reflection of vocation in the negative

[7] I again refer you to Wells (2013e) for the Critical explanations of technical terms used in this paper.
[8] I also include in this category cases where one or more children are born out of wedlock and it falls to a single parent to provide for their needs.

sense. The longing to seek out one's "true vocation" found a popular descriptive expression among many young people in the 1960s in the phrase, "I'm trying to *find myself*," but the yearning to know and fulfill one's vocation seems to be older than history. Meister Eckhart was referring to the notion of vocation when he wrote,

> People should not worry so much about what they *do*, but rather about what they *are*. . . . It is not our works which sanctify us, but we who sanctify our works. [Eckhart (*c*. 1294)]

Aquinas was making a similar reference to vocation when he wrote,

> Three things are necessary for the salvation of man: to know what he ought to believe; to know what he ought to desire; and to know what he ought to do. [Aquinas (1273)]

As a last example we have the vocational advice Cicero passed on to his son,

> [It] is each man's duty to weigh well what are his own peculiar traits of character, to regulate these properly, and not to wish to try how another man's would suit him. For the more peculiarly his a man's character is, the better it fits him.
>
> Everyone, therefore, should make a proper estimate of his own natural ability and show himself a critical judge of his own merits and defects . . . We shall, therefore, work to the best advantage in that role to which we are best adapted. But if at some time stress of circumstances shall thrust us aside into some uncongenial part, we must devote to it all possible thought, practice, and pains, that we may be able to perform it, if not with propriety, at least with as little impropriety as possible; and we need not strive so hard to attain to points of excellence that have not been vouchsafed to us as to correct the faults we have. . . . But what role we ourselves may choose to sustain is decided by our own free choice. [Cicero (44 BC), pp. 116-119]

A learner who is acquiring skills that harmonize with his ***self***-discovered feelings of vocation maximizes his tangible *Personfähigkeit* in the associated arts. It is an old teacher's observation that the learner likes what he finds himself to be good at doing, and what he is good at doing he finds easier to learn in depth. His personal challenge is in not succumbing to a narrowing of his tastes that leads to his acquiring *depth* in one skill at the sacrifice of *breadth* in other skills. It is not true, as Plato believed, that excellence necessarily means depth without breadth. A person who makes himself an inch wide and a mile deep has severely limited *Personfähigkeit*. A person who exhibits both depth of skills and breadth of arts is called a polymath. Leibniz was known to be such a man, as were Leonardo da Vinci and Ernst Mach. People like this are not freaks of nature. The lessons of vocation function necessitates that the curriculum an individual pursues should be a curriculum with liberal provisions for *free electives*. It is no part of the purpose of public education to produce standardized entrepreneurs. Standards often hinder innovation.

This does *not* mean a teaching faculty should impose *no* particular studies as requirements. It is a trivial observation to make that those who are already *broadly* knowledgeable of divers subject-matters are wiser judges of what is *essential* for success in a chosen pursuit than are novices. But, at the same time, vocations are intimately personal and it is nothing but hubris to hold that *any* appointed body of 'experts' knows better than the learner himself the full suite of subject-matters the learner deems best suited for satisfying his own vocational fulfillment. *No* person is an expert on *another* person.

Furthermore, two more points have the greatest pertinence for the institution of public education. First, the corporate power of a Society comes from nowhere else than the collective powers of the persons making up that Society. To hinder *Personfähigkeit* in the dimension of the learner-as-a-free-person is therefore, at the same moment, to hinder the corporate *Personfähigkeit*

of Society overall. Second, Progress in Society is grounded in innovation and no body of acclaimed (much less self-styled) 'experts' remains innovative indefinitely. Some, indeed, are innovative for a brief time only while other self-anointed bodies of 'experts' are innovative only in their own esteem. A body of experts lays claim to expertise based on their past accomplishments, and it is easy to observe historically that panels of such experts often become so invested in past achievements as to become close-minded and blind to future innovations. Toynbee, with his style of melodramatic mysticism, called this "Orpheus losing his lyre." Rule-by-experts in any institution most often leads to a calcified straitjacket of dogma and stagnation because even a great idea, once it turns into dogma, is no longer great.

The function argues for a flexibility and personalization of curricula that is unknown in public education. However, this most emphatically ***does not mean*** curricula should be left to the chaos of unrestricted learners' choices, such as what some members of the PEM argued for under the propaganda banner of "the child-centered curriculum." A learner can judge *ex post facto* whether or not a particular subject-matter accords with his subjective judgment of taste; a learner cannot know *a priori* what subject-matters might be found congruent with his present tastes or, more importantly, stimulating for the cultivation of new tastes. There are many of us, myself included, who would be too embarrassed to admit how narrow our opinions about the world, our tastes, and our understandings of our own potentialities were at age sixteen compared to how these horizons have expanded with the passage of years and the broadening acquisitions of our experiences. That the role of the teacher is in no small degree the role of a guide and a coach is, as Dewey said, true. There is a considerable lesson contained in the old joke about the 30-year-old man who said, "It's amazing how smart my father has become in the past fifteen years."

Vocation is, as Kant might have put it, such an "unstable concept" it is little to be wondered at that educologists have often given in to the temptation to specialize it to narrow confines of mere economic occupation. Dewey-Bode doctrine does this under the influence of its *Politeía* model. The doctrine admixes notions of vocation and occupation and its manner of presentation places a decidedly heavy emphasis on economic occupation. Dewey began with an importantly broad context for vocation. He wrote,

> A vocation signifies any form of continuous activity which renders service to others and engages personal powers on behalf of accomplishment of results. [Dewey (1916), pg. 349]

Yet a too-narrow and strict reading of this misses what was for Dewey a more important and broader context for vocation, i.e.,

> A vocation means nothing but such a direction of life activities as renders them perceptibly significant to a person, because of the consequences they accomplish, and also useful to his associates. . . . We must avoid not only limitation of conception of vocation to the occupations where immediately tangible commodities are produced, but also the notion that vocations are distributed in an exclusive way, one and only one to each person. Such restricted specialism is impossible; nothing could be more absurd than to try to educate individuals with an eye to only one line of activity. In the first place, each individual has of necessity a variety of callings, in each of which he should be intelligently effective; and in the second place any one occupation loses its meaning and becomes a routine keeping busy at something in the degree in which it is isolated from other interests. . . . [A person] must, at some period of his life, be a member of a family; he must have friends and companions; he must either support himself or be supported by others, and thus he has a business career. He is a member of some organized political unit, and so on. We naturally *name* his vocation from that one of his callings which distinguishes him, rather than those which he has in common with all others. But we should not allow ourselves to be so subject to words as to ignore and virtually deny his other callings when it comes to a consideration of the vocational phases of education. [*ibid*., pg. 336]

And yet, having just said this, Dewey then re-narrows his focus when he tries to distinguish and specify economic occupation as the proper place of vocational aims in education. Here we see the fingers of his Platonic idol tighten around the throat of his doctrine:

> An occupation is the only thing which balances the distinctive capacity of an individual with his social service. To find out what one is fitted to do and to secure an opportunity to do it is the key to happiness. Nothing is more tragic than failure to discover one's true business in life, or to find that one has drifted or been forced by circumstance into an uncongenial calling. A right occupation means simply that the aptitudes of a person are in adequate play, working with the minimum of friction and the maximum of satisfaction. With reference to other members of a community, this adequacy of action signifies, of course, that they are getting the best service the person can render. . . . Plato laid down the fundamental principle of a philosophy of education when he asserted that it was the business of education to discover what each person is good for, and to train him to mastery of that mode of excellence, because such development would also secure the fulfillment of social needs in the most harmonious way. His error was not in his qualitative principle, but in his limited conception of the scope of vocations socially needed [*ibid*., pp. 337-338]

Right at this point, by adopting Plato's theory, the viewpoint of the doctrine shifts away from a focus on human nature and the individual human being as a social atom of Society and replaces this with a focus that can only view the learner as an abstract person regarded quintessentially as an economic unit. With this step, Dewey-Bode transgresses the social contract and, indeed as a practical consequence, steers the doctrine toward the specialization Dewey elsewhere opposes.

Overall, then, the first function of tangible education is touched upon in vague and sometimes contradictory terms in Dewey-Bode. A great deal of scientific work remains to be done before the Critically correct embodiment of this function is made available in public education. The Dewey-Bode doctrine leaves the other two functions in even less good shape. Once vocation has been transformed into 'occupation' and then occupation transformed into 'occupation fulfilling social needs,' the personal dimension of the learner is lost altogether. Dewey-Bode has nothing instructive to tell us in regard to the skills of civil liberty function [Wells (2012a), pp. 241-246] or the cooperation of skill enterprises function [*ibid*., pp. 247-249]. The inadequacies of Dewey-Bode in regard to tangible public education led to a great many serious problems and failures in the 20th century reforms of public education.

V. Summary

It has been the purpose of this series of papers to re-examine the Dewey-Bode doctrine in the light of Critical analysis, and to identify, first, those parts of it that are objectively valid for creating a social-natural science of public education and, second, those parts that are incongruent with such a science. This has been accomplished to what I think is a serviceable enough level of preparation for the work that remains in organizing the science. I see no useful purpose that would be served by carrying on a polemic in regard to Dewey-Bode.

This series has held the doctrinal points of Dewey-Bode up against the Critical functions of public instructional education and examined the former's strengths and shortcomings. As I said at the beginning of part I in this series, the doctrine contains a number of insights and principles that a Critically-grounded science of education must retain. It also contains a number of viewpoints, presuppositions, and antisocial principles that must be discarded. These have been covered in the texts of the four papers and I choose not to merely re-list them here. My reason is this. A summary list, by its convention, is an abstraction omitting much richness of detail. But it is detail that makes up the bones and sinews of any science. In my opinion, a synopsis fitting the form of a summary list is likely to provoke more misunderstanding and misapplication than the benefit ease-of-reference counteracts.

There still remains a great deal of work to be done in establishing a social-natural science of education and in re-instituting American public education. The next logical step in the process of bringing into being a true social-natural science of education is to proceed with completion of the third volume of *The Idea of Public Education*, which I plan to call *The Institution of Public Education*. That book will be my next word on the topic of education.

VI. References

Aquinas, Thomas (1273), *Two Precepts of Charity*

Bode, Boyd H. (1927), *Modern Educational Theories*, NY: The Macmillan Co.

Bureau of the Census (1976), *The Statistical History of the United States from Colonial Times to the Present*, NY: Basic Books, Inc.

Cicero (44 BC), *De Officiis*. Available in Latin in *On Duties*, Walter Miller (tr.), Cambridge, MA: Harvard University Press, 1913 (reprinted 1997).

Dewey, John (1916), *Democracy and Education*, NY: Barnes and Noble Books, 2005.

Eckhart, Meister (*c*. 1294), "The talks of instruction," in *Meister Eckhart: Selected Writings*, Oliver Davies (tr.), London: Penguin Books, 1994.

Kant, Immanuel (1787), *Kritik der reinen Vernunft*, 2nd ed., in *Kant's gesammelte Schriften, Band III*, Berlin: Druck und Verlag von Georg Reimer, 1911.

Kant, Immanuel (1803), *Pädagogik*, in *Kant's gesammelte Schriften, Band IX*, Friedrich Theodor Rink (ed.), Berlin: Walter de Gruyter & Co., 1923, pp. 437-499.

Piaget, Jean (1932), *The Moral Judgment of the Child*, NY: The Free Press, 1965.

Piaget, Jean (1961), *The Mechanisms of Perception*, NY: Basic Books, 1969.

Piaget, Jean (1974), *The Grasp of Consciousness*, Cambridge, MA: Harvard University Press, 1976.

Piaget, Jean (1975), *The Equilibration of Cognitive Structures: The Central Problem of Intellectual Development*, Terrance Brown and Kishore Julian Thampy (tr.), Chicago, IL: The University of Chicago Press, 1985.

Piaget, Jean (1981), *Possibility and Necessity Volume 1: The Role of Possibility in Cognitive Development*, Minneapolis, MN: University of Minnesota Press, 1987.

Piaget, Jean and Rolando Garcia (1987), *Toward A Logic of Meanings*, Hillsdale, NJ: Lawrence Erlbaum Associates, 1991.

Plato (*c*. 4th century BC), Πολιτεία (commonly mistranslated as *Republic*), in two volumes, Cambridge, MA: Harvard University Press, 1937.

Toynbee, Arnold (1946), *A Study of History*, abridgment of volumes I-VI by D.C. Somervell, NY: Oxford University Press, 1947.

Wells, Richard B. (2009), *The Principles of Mental Physics*, available free of charge from the author's web site. (see footnote 1).

Wells, Richard B. (2011), "On the synthesis of polysyllogisms in Critical Logic," Apr. 21, available free of charge from the author's website. (see footnote 1).

Wells, Richard B. (2012a), *Education and Society*, vol. I of *The Idea of Public Education*, available free of charge from the author's web site. (see footnote 1).

Wells, Richard B. (2012b), *The Idea of the Social Contract*, available free of charge from the

author's web site. (see footnote 1).

Wells, Richard B. (2013a), "Critical review of the Dewey-Bode applied philosophy of education, part I: *Schooling and Society*," available free of charge from the author's web site. (see footnote 1).

Wells, Richard B. (2013b), "Critical review of the Dewey-Bode applied philosophy of education, part II: *Corporal and Intellect Socialization*," available free of charge from the author's web site. (see footnote 1).

Wells, Richard B. (2013c), "Critical review of the Dewey-Bode applied philosophy of education, part III: *Tangible and Persuasion Socialization*," available free of charge from the author's web site. (see footnote 1).

Wells, Richard B. (2013d), *Critique of the American Institution of Education*, vol. II of *The Idea of Public Education*, available free of charge from the author's web site (see footnote 1).

Wells, Richard B. (2013e), *Wells Glossary of Critical Philosophy and Mental Physics*, 3rd ed., available free of charge from the author's web site (see footnote 1).