# Chapter 10 Prolegomenon to Social-Natural Public Education

## § 1. Science, Applied Metaphysics, and Metaphysics Proper

The four preceding chapters dived into the details of the Critical applied metaphysic of public instructional education. Before concluding the business of this volume of *The Idea of Public Education*, it is appropriate to summarize these details in an overview.

An applied metaphysic provides the groundwork for building a special science. It is not the special science itself. An applied metaphysic is concerned with application of *a priori* principles to objects of experience; a science is concerned with the application of reasoning to objects of experience:

> All knowledge that need an experience in order to be attained are outside the field of metaphysics . . . Natural science is also philosophy, but applied philosophy; it is an application of reason to objects of experience where we plant the empirical principles in grounds. We have two fields for the use of reason. It can go forth when it has *a priori* principles or when it has *a posteriori* principles, wherein it draws upon the advice of experience. The first part of this use is called metaphysics. Here there must be two main parts:
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> First, we must consider reason itself – or, the first part is the science which has reason for its object. It would deal with the sources, scope, and boundaries of our pure reason – or with Nature, i.e., with the possibility of judging *a priori* . . . Pure reason is that which judges independently of all experience. One could also call this part *metaphysicam puram* [(pertaining to) a pure metaphysic]; and, second, the application of *a priori* principles to objects of would be *metaphysica applicata* [an applied metaphysic]. [Kant (1783), 29: 750-751]

Human reasoning is a process in which subjective judgments, especially judgments of taste, fill an essential role. Every concept of an object begins as a cognition of belief, and the judgment of a belief is always wholly subjective. Because of this, reasoning can and does lead us to make errors of objectivity in understanding, whereby we mistakenly endow a merely mathematical object (an object of epistemology alone) with an ontological significance it can never have. Metaphysics proper is the doctrine of epistemology. Its purpose is to explain what is required for the objects of our concepts to possess an ontological significance (hold true with objective validity) and to warn us of where understanding is built upon grounds that have only a subjectively sufficient holding-to-be-true (lack the evidence of actual experience necessary for ontological significance).

In contrast, every proper empirical natural science is always ultimately concerned with obtaining an objectively valid understanding of natural objects, within a restricted topical scope, sufficient for us *to make use of that knowledge for our own purposes*. It deals with: (1) facts of real experience; and (2) speculative principles *a posteriori* (theories) that synthesize a juxta-position of divers facts into a doctrine within a unified *contextual* whole in our understanding of Nature. Regardless of how much aesthetical pleasure a scientist might take from theories (the children of his reasoning), the complete context of a doctrine of empirical science always contains what that knowledge means not merely *to* us but *for* us. A theory that cannot be applied to human purposes is called a *useless* theory.

Strictly speaking, even a useless theory has *one* application for human purposes, but this application is properly called *personal leisure* and stands on an equal footing with the enjoyment of novels, poetry, and music. But, just as some people do not care for opera or poetry, some people do not care to use speculative science for an object of leisure. In any civil Community, public support for those who practice science professionally always has a *quid pro quo*, namely,

that the outcomes of the endeavors it supports ultimately benefit and improve the lives of the citizens of that Community. This *public purpose* for the practice of science has been known since the days of Bacon in that dawning of modern science historians call the Age of Reason:

> To generate and superinduce a new nature or new natures upon a given body is the labor and aim of human power: while to discover the form or true difference of a given nature, or the nature to which such nature is owing, or source from which it emanates (for these terms approach nearest to an explanation of our meaning), is the labor and discovery of human knowledge . . . Although there is a most intimate connection, and almost an identity, between the ways of human power and human knowledge, yet, on account of the pernicious and inveterate habit of dwelling upon abstractions, it is by far the safest method to commence and build up the sciences from those foundations which bear a relation to the practical division, and to let them mark out and limit the theoretical. . . .
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> We will lay this down, therefore, as the genuine and perfect rule of practice, that it should be certain, free and preparatory, or having relation to practice. And this is the same thing as the discovery of a true form; for the form of any nature is such that when it is assigned the particular nature inevitably follows. It is, therefore, always present when that nature is present, and universally attests such presence, and is inherent in the whole of it. The same form is of such a character that if it be removed the particular nature infallibly vanishes. It is, therefore, absent whenever that nature is absent, and perpetually testifies such absence, and exists in no other nature. Lastly, the true form is such that it deduces the particular nature from some source of essence existing in many subjects, and more known (as they term it) to nature than the form itself. Such, then, is our determination and rule with regard to a genuine and perfect theoretical axiom, that a nature be found convertible with a given nature, and yet such as to limit the more known nature in the manner of a real genus. But these two rules, the practical and the theoretical, are in fact the same, and that which is most useful in practice is most correct in theory. [Bacon (1620), pp. 108-113]

Historically the Platonists in philosophy and in science have not respected Bacon very much and have offered up a number of typically mean-spirited excuses for dismissing him, but every one of those reflects nothing more substantial than a judgment of taste. The *social significance* of any science is always grounded in its uses. All knowledge of empirical science is practical before it is theoretical, efficacious before it is enjoyable.

But for it to be efficacious, it must be objectively valid and this is where the applied metaphysic enters in to *the system of science in general*. I have metaphorically called an applied metaphysic a bridge between metaphysics proper (the seat of grounds of objectively valid knowledge) and empirical science. It makes a transition from pure philosophical knowledge to knowledge of the empirically actual discovered in Nature. Science does not come from Nature; Nature – or, more accurately, some part of Nature – is the Object of a special science. Science comes always and only from human beings who practice the art of empirical knowledge-making. Therefore all useful scientific doctrines are grounded in Critical epistemology and nowhere else.

## § 2. The Applied Metaphysic of Public Instructional Education

What I hope you have perceived from the latest five chapters of this book is that the applied metaphysic of public instructional education has a Critical form for its systematic structure and provides the axiomatic starting grounds for its object, a special science of public instructional education. Figure 10.1 illustrates the structure of its axiom system and is presented as a 2LAR. The diagram is a rather "busy" one, so allow me to point out its principal features. First, it presents the general layout of the portable concepts pertinent to the social mission of public instructional education. These are, again, the four titles of education understood in the context of a mission to promote Progress in *Personfähigkeit*, both individual and corporate.

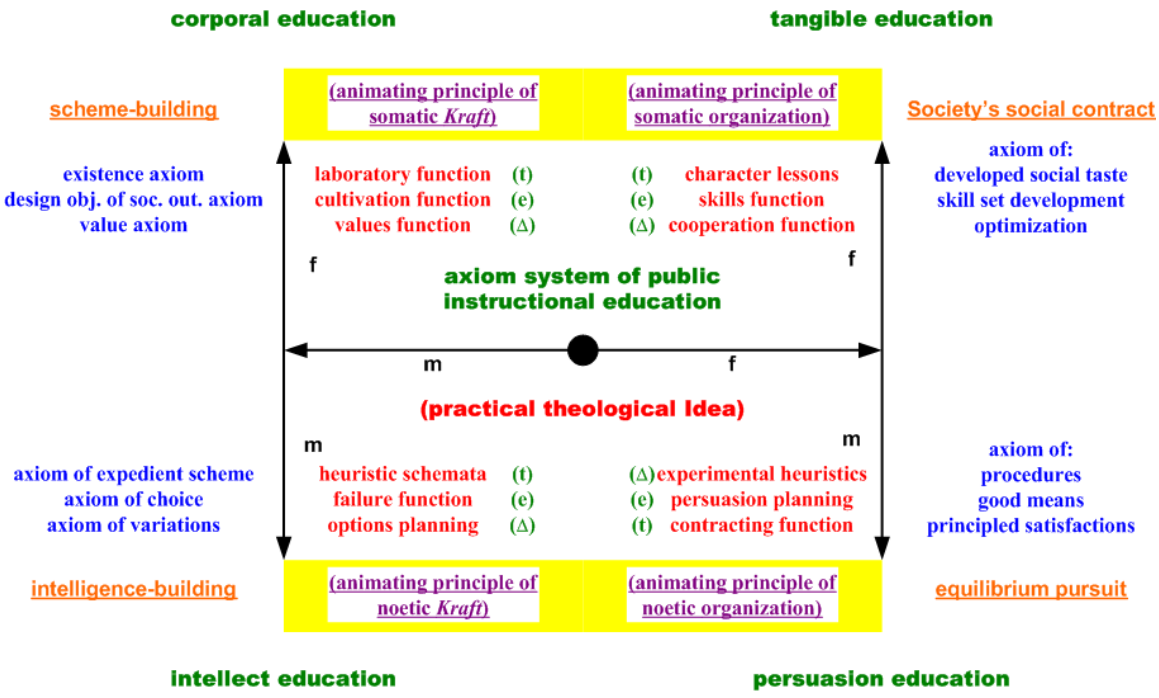


**Figure 10.1:** 2LAR structure of the axiom system of the applied metaphysic.

Second, the portable concepts are placed in specific contexts by specifying concepts. There is one specifying concept per 2LAR division of the metaphysic and these concepts delimit the special context in which all the constructs that follow by Critique are to be understood. The specifying concepts cannot be arbitrary but instead must always be deduced from Critique of the Idea of the special science and its relationship to human knowledge. Every applied metaphysic is purposive, and in deducing the specifying concepts the metaphysician acts as a designer, hence can rightly be called a metaphysics engineer. The specifying concepts in figure 10.1 are scheme-building, intellect-building, the Society's social contract, and equilibrium pursuit.

Third, the figure depicts the relationship between the axiom system and the animating principles of the logical division of *psyche* in the Organized Being model of human Nature. All real meanings are ultimately practical, and this requires that the metaphysical axioms have their connections with human expressions of actions under the general principle of thorough-going mind-body unity in *H. sapiens*. *Psyche* is the logical division in the Organized Being model having for its purpose and place the insurance of objectively valid understanding of this unity through its fundamental principle of thorough-going *nous-soma* reciprocity.

Next, the axiom system and functions are deduced by structuring the fundamental acroams of Critical metaphysics proper. The Critical acroams, called the transcendental Ideas, are the most basic postulates of a human nature *necessary for the possibility of human experience in the manner human beings factually come to know experience*. They are deduced by Critique from the fundamental hypothesis that all human knowledge of objects is knowledge made to conform to laws of innate human capacities of making knowledge representations. This is Kant's Copernican hypothesis and is the first postulate of Critical science in epistemology-centered metaphysics.

The placement of the acroams within an applied metaphysic can never be arbitrary. Rather, it must always follow from the defining Idea of the Object of the metaphysic, i.e., the special science to the realization of which it is directed. The figure illustrates the Critical alignment of the acroams and metaphysical axioms in the applied metaphysic of public instructional education.

One acroam is identified as the major acroam and applies to the metaphysic as a whole. The remaining three are employed as minor acroams and are placed in the metaphysical "bridge" in relationship to rational science (t), empirical science (e), and transitional science (Δ). The alignment is defined by the logical functions of the axioms within the system. These four logical functions are themselves deduced and understood by the Critical method of Critique. In figure 10.1 the major acroam is the theological Idea. The remaining transcendental Ideas are the regulative principles of rational science (cosmological Idea), empirical science (psychological Idea), and transitional science (physical Idea).

Finally there are the metaphysical axioms themselves. In real science of nature, axioms (as Bacon refers to them in the previous quote) are never the self-evident truths held so dear by the ancient Greeks. The axioms are statements of truths, but there is nothing particularly self-evident about them. *Axioms are deduced from the acroams* under conditions set by specifying concept. They set the *axiomatic basis* of the special science and so must be deduced to provide that science with its real grounding in Critical metaphysics proper. All epistemologically sound empirical principles of Nature (the principles *a posteriori* of empirical science) must be made congruent with the axiom system of the applied metaphysic. This includes those principles by which the objects of the science are *defined* as principal quantities of Critical mathematics at the horizon of possible experience. The axiom system thus delimits *applied empirical ontology* for the science. It is important that you clearly come to understand that the word "ontology" is *devoid of real meaning outside the context of the special science for which it is the* ***constituted*** *ontology*. This is why all ontology-*centered* systems of *metaphysics* have always failed and always will fail.

After the system of metaphysical axioms we come to the system of metaphysical functions. These are deduced, again by Critique, from synthesis of a transcendental schematic, specified by the Critical Standpoint of the metaphysic, and the metaphysical axioms in the context specified by the specifying concepts of each heading. There are three transcendental schematics, one for each Critical Standpoint. They are: (1) the theoretical schematic of judgmentation, also called the 2LAR of combination, for the theoretical Standpoint; (2) the judicial schematic of judgmentation, also called the 2LAR of transcendental topic, for the judicial Standpoint; and (3) the practical schematic of judgmentation, also called the 2LAR of appetitive power, for the practical Standpoint. The practical schematic is the schematic for our applied metaphysic.

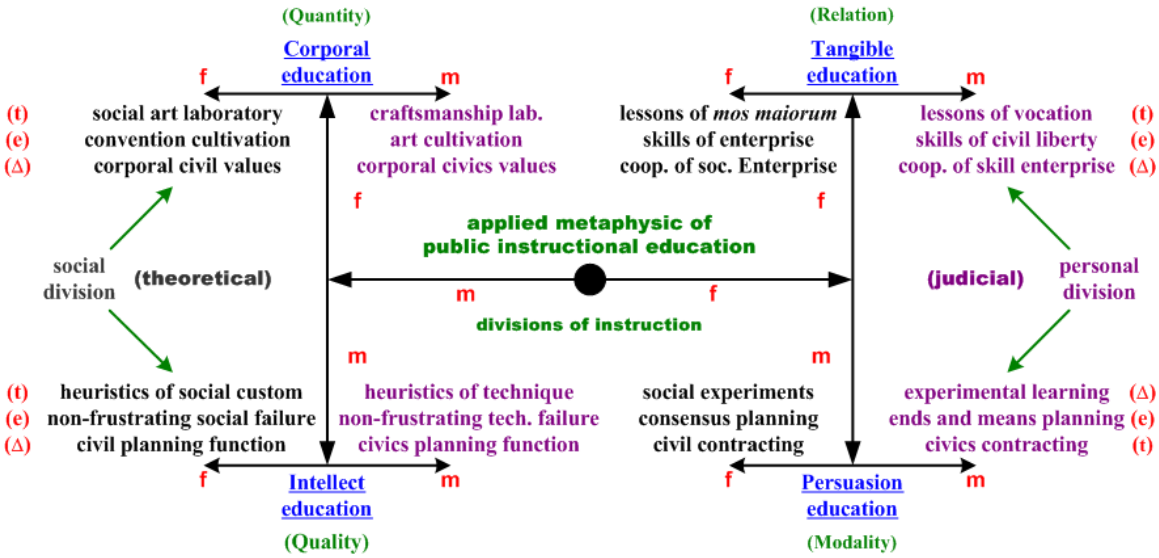


**Figure 10.2:** The annotated 3LAR of the applied metaphysic detailing the education functions.

The schematic and the synthesis are understood in context with the specifying concepts. In every social-natural science, we must always deal with the peculiarity of a necessary disjunction in the sphere of a specifying concept. This is because a social-natural science, by definition, always pertains to phenomena involving more than one person. (A natural science having the individual person as its topic would be properly called a *humane*-natural science, a category that understands a *psyche*-natural science of psychology). In every social-natural science we must consider: (1) the individual as the essential social atom of the science; and (2) the group of socially interacting individuals who collectively *co*-produce those *social* phenomena targeted as the topic of the science. In the case of every social-natural science, the universal context of social dynamics is understood and conditioned by the Idea of the Social Contract. This Idea is logically prior to and antecedes every special applied metaphysic of social-natural science.

In the particular case of the applied metaphysic of public instructional education, the disjunction under the specifying concepts is two-dimensional, with a matter dimension pertaining to the individual learner as social atom and a form dimension pertaining to the learner as citizen in a civil Community and comprising one part of the whole of its identify as a corporate person. Thus the Classification made by disjunctive synthesis produces a 3LAR structure for the functions of public instructional education. A 3LAR contains twenty-four distinguishable functions that collectively constitute its synthetic *momenta*. Figure 10.2 illustrates the annotated 3LAR of the applied metaphysic of public instructional education. With these two figures, 10.1 and 10.2, we have the complete architectonic structure of the applied metaphysic.

## § 3. Is a Social-Natural Science of Public Education a New Idea?

Readers who are on familiar terms with the history of education in the West might have been telling themselves for some time now that there is nothing particularly new or revolutionary set out in the applied metaphysic. Much of what it contains, they might be saying to themselves, was discovered long ago and set out in the work of Europe's revolutionary education reformer, Johann Heinrich Pestalozzi (*b*. 1746, *d*. 1827). There is much in contemporary Western educational practices that can arguably be said to be a lineal descendent of the new, and at the time revolutionary, ideas Pestalozzi first enounced. Pestalozzi's influence seems to be clearly evident in most of Dewey's major prescriptions and I suspect – at least I hope it is true[1] – that university-trained American teachers are familiar with Pestalozzi's contributions.

Cubberley provided a succinct and well-summarized overview of Pestalozzi's contributions [Cubberley (1919), pp. 261-270]. Pestalozzi, as Dewey would later repeat, developed his ideas of pedagogy and instructional matter experimentally through studying children (mainly Swiss orphans who had been placed in his charge), trying out different techniques for teaching them, and formulating his findings into an empirical theory. His masterpiece work, *Leonard and Gertrude* was published in 1781 and, one can probably presume, was based upon experiments in educational methods he conducted on his farm at Neuhof beginning in 1774. Here he and his wife took in fifty abandoned children, to whom he taught reading, writing, and arithmetic, gave moral discourses, and trained in gardening, farming, and cheese-making. He and his wife were able to maintain this school until they exhausted all their money and were forced to close it in 1780. He was briefly able to resume his work in education in 1798 after the French invasion of Switzerland left around 169 children orphaned, homeless, and without food or shelter in the little town of Stanz. The townspeople placed these children in Pestalozzi's care, and he served as father, mother, teacher, and nurse to them. This lasted until 1799, when the convent where he housed his

[1] I hope it is true, but I am not convinced it is true. When I listen to what my colleagues in the College of Education say, I often hear the names Dewey, Piaget, and Vygotsky. I have never once heard a colleague actually mention Pestalozzi by name.

school and orphanage was requisitioned for use as a hospital. He opened another school in 1800 at an old castle in Burgdorf, where he employed teachers for drawing and singing, geography and history, language and arithmetic, and gymnastics. In 1801 he published his most important pedagogical work, *How Gertrude Teaches Her Children*. In 1805 the government re-requisitioned the castle and Pestalozzi moved to Yverdon. There he opened an Institute that he ran for the next twenty years.

Pestalozzi's educational doctrine can be summarized in twelve points:

- rejection of teaching only words and facts in favor of reducing the education process to a well-organized routine;
- basing pedagogy on the natural and orderly development of the growing child's instincts, capacities, and powers;
- emphasizing learning based on observation, experimentation, and reasoning by the child;
- psychologizing the educational process by harmonizing it with the natural development of the child (this, as it happens, was no mean feat in Pestalozzi's day because the science of psychology had not been invented yet);
- experimental development of teaching methods based on studying children;
- approaching teaching using a motto of "Read nothing, discover everything, and prove all things";
- treating education as a holistic process of child development, mentally, physically, and morally;
- teaching by guided stimulation of self-activities based on intuition and exercise;
- using graded steps in education matched to the stages of child development;
- learning by doing rather than by words;
- having faith in the power of education to regenerate society; and
- rejection of the brutal discipline common up to that time in schooling and substituting in its place a strict but loving discipline.

Most of this is more or less taken for granted today, but in Pestalozzi's day all of it was nothing short of revolutionary. His ideas transformed the nature of education in Europe. In time, these ideas came over to America, brought back by American reformers who had toured Europe to see how Europeans were instituting their schools and educational processes. Examples from Germany were especially influential in the United States. Pestalozzi's ideas impacted both curriculum design and teaching methods.

All of these points, with the exception of the motto, are at some level either explicit or implicit in the functions of public instructional education set out by the applied metaphysic. It is therefore a short, quick, satisficing step to say that the metaphysic is merely Pestalozzi's prescription set out in a different form of expression. But is this true or merely semblance? Clearly the metaphysic is saying that at some level of abstraction Pestalozzi deduced many things correctly insofar as the congruence of his ideas with the mental physics of human nature is concerned. The important practical question, however, is: At what level? At the level of general principles or at the level of operationalized details? An equally important question, one present day psychologists will have no trouble spotting, is: What are the ethical implications of *experimenting on children* in seeking to develop educational methodologies and curricula, and how must these implications affect education experimentation? Another issue, one Pestalozzi did *not* address, is the question of public instructional education *for adults*. Here I don't only mean college students; I mean *all* adult citizens of a civil Community. Educator Robert M. Hutchins wrote,

> The business of saying, in advance of a serious effort, that the people are not capable of achieving a good education is too strongly reminiscent of the opposition to every extension of democracy. This opposition has always rested on the allegation that the people were incapable of exercising intelligently the power they demanded. Always the historic statement has been verified: you cannot expect a slave to show the virtues of a free man unless you first set him free. When the slave has been set free he has, in the passage of time, become indistinguishable from those who have always been free. . . .
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> In education, for example, whenever a proposal is made that looks toward increased intellectual effort on the part of students, professors will always say that the students cannot do the work. My observation leads me to think that what this usually means is that the professors cannot or will not do the work that the suggested change requires. When, in spite of the opposition of the professors, the change has been introduced, the students, in my experience, have always responded nobly. . . .
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> If any common program is impossible, if there is no such thing as an education everybody ought to have, then we must admit that any community is impossible. All men are different; but they are also the same. As we must all become specialists, so we must all become men. In view of the ample provision that is now made for the training of specialists, in view of the divisive and disintegrative effects of specialism, and in view of the urgent need for unity and community, it does not seem an exaggeration to say that the present crisis calls first of all for an education that shall emphasize those respects in which men are the same, rather than those in which they are different. The West needs an education that draws out our common humanity rather than our individuality. Individual differences can be taken into account in the methods that are now employed and in the opportunities for specialization that may come later. . . .
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> If there is an education that everybody should have, how is it to be worked out? Educators are dodging their responsibility if they do not make the attempt; and I must confess that I regard the popularity of the dogma of individual differences as a manifestation of a desire on the part of educators to evade a painful but necessary duty. [Hutchins (1952), pp. 45-51]

There is certainly no shortage of well-meaning people who will deny that the West in general or America in particular face any sort of "crisis" in education; problems, yes; issues, yes; crisis? No. To them I reply that the Romans did not understand the finality of the crisis that was upon their civilization even as the barbarians were actually coming through the gate. After Odoacer the Barbarian deposed Romulus Augustulus, the boy who was the last Western Roman Emperor, in 476 A.D. and took one third of Italy, including Rome itself, as his personal kingdom, the Senate in Rome and the Eastern Emperor in Constantinople refused to acknowledge that the Western Roman Empire was gone once and for all. Odoacer, they deluded themselves, was merely the new *patricius* of Italy, a kind of viceroy to Emperor Zeno. The capacity for ignórance is a sometimes astonishingly powerful satisficing compensation.

And so the question must be asked: Is the applied metaphysic of public instructional education representative of a scientific revolution in education or is it merely representative of an evolution in a discipline that has been around since the reforms of Pestalozzi? The question is not a simple one because the history of science shows us that scientific revolutions are not generally understood to be revolutions within a generation or two after they have taken place. Kuhn wrote that scientific revolutions are made invisible by a kind of deliberate historical revisionism. He tells us,

> I have so far tried to display [scientific] revolutions by illustrations, and the examples could be multiplied *ad nauseam*. But clearly, most of them, which were deliberately selected for their familiarity, have customarily been viewed not as revolutions but as additions to scientific knowledge. . . . I suggest that there are excellent reasons why revolutions have proved to be so nearly invisible. Both scientists and laymen alike take much of their image

> of creative scientific activity from an authoritative source that systematically disguises . . . the existence and significance of scientific revolutions. Only when the nature of that authority is recognized and analyzed can one hope to make historical example fully effective. . . .
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> As the source of authority, I have in mind principally textbooks of science together with both the popularizations and the philosophical works modeled on them. All three of these categories . . . have one thing in common. They address themselves to an already articulated body of problems, data, and theory, most often to the particular set of paradigms to which the scientific community is committed at the time they are written. . . . All three record the stable *outcome* of past revolutions and thus display the bases of the current normal-science tradition. . . .
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> Textbooks, however, being pedagogic vehicles for the perpetuation of normal science, have to be rewritten in whole or in part whenever the language, problem-structure, or standards of normal science change. In short, they have to be rewritten in the aftermath of each scientific revolution, and, once rewritten, they inevitably disguise not only the role but the very existence of the revolutions that produced them. Unless he has personally experienced a revolution in his own lifetime, the historical sense either of the working scientist or the lay reader of textbook literature extends only to the outcome of the most recent revolutions in the field.
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> Textbooks thus begin by truncating the scientist's sense of his discipline's history and then proceed to supply a substitute for what they have eliminated. Characteristically, text-books of science contain just a bit of history . . . From such references both students and professionals come to feel like participants in a long-standing tradition in which scientists come to sense their participation is one that, in fact, never existed. . . . Partly by selection and partly by distortion, the scientists of earlier ages are implicitly represented as having worked upon the same set of fixed problems and in accordance with the same set of fixed canons that the most recent revolution in scientific theory and method had made seem scientific. No wonder that textbooks and the historical tradition they imply have to be rewritten after each scientific revolution. . . .
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> The result is a persistent tendency to make the history of science look linear or cumulative, a tendency that even affects scientists looking back at their own research. . . . Newton wrote that Galileo had discovered that the constant force of gravity produces a motion proportional to the square of time. In fact, Galileo's kinematic theorem does take that form when embedded in the matrix of Newton's own dynamical concepts. But Galileo said nothing of the sort. His discussion of falling bodies rarely alludes to forces, much less to a uniform gravitational force that causes bodies to fall. By crediting to Galileo the answer to a question that Galileo's own paradigm did not permit to be asked, Newton's account hides the effect of a small but revolutionary reformulation in the questions that scientists asked about motion as well as in the answers they felt able to accept. . . .
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> The preceding examples display, each within the context of a single revolution, the beginnings of a reconstruction of history that is regularly completed by post-revolutionary scientific texts. . . . These misconstructions render revolutions invisible; the arrangement of the still visible material in science texts implies a process that, if it existed, would deny revolutions a function. . . .
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> But that is not the way a science develops. Many of the puzzles of contemporary normal science did not exist until after the most recent scientific revolution. Very few of them can be traced back to the historic beginning of the science within which they now occur. [Kuhn (1970), pp. 136-141]

History is part of the Critical doctrine of method [Kant (1787), B: 736]. This is true in spite of the fact that Kant never did elaborate on what was *in* Critical historical doctrine of method and in spite of the fact that history as a discipline has yet to make itself into a social-natural science. But

Santayana was quite correct when he famously wrote, "Those who cannot remember the past are condemned to repeat it" [Santayana (1905), pg. 284]. Establishing the answer to the question I have raised in this section requires a Critical analysis of the history of education, which I will present in the second volume of this project.

However, I see no point in concealing from you what the outcome of that analysis is going to establish. A social-natural science of public instructional education *is* a revolution and not merely an evolution from past trends. You will see that Pestalozzi was correct about some things, was incorrect about others; that Dewey was correct about some things, incorrect about others; that Horace Mann was correct about some things, incorrect about others; that contemporary instructional education is correct about some things, incorrect about others. And the things they are not correct about – things that are in conflict with the nature of our social atom, the individual human being – are not small matters but, on the contrary, are contributing to the breakdown and disintegration of public education – in America particularly, but also in the West in general. Hutchins was correct to say we are facing a crisis. First steps in actions to halt the progress of this crisis and to attempt to turn it around will be presented in the third volume of this project.

## § 4. Cross-Disciplinary Linkages

Many issues of fundamental pertinence to public instructional education are indissolvably linked to issues in interpersonal psychology, to social-natural political science, to social-natural economics, to social-natural sociology, to social-natural history, to social-natural language-and-literature science, to social-natural management science, and to social-natural leadership science. These issues have their roots in the *homo noumenal* aspect of being-a-human-being and in the Idea of the Social Contract (which is the Idea that understands every social-natural science). The traditional silo-like divisions in higher education that exist today between the divers social sciences and humanities are, one and all, artificial division and arise from natural but subjective and *developed* inclinations of judgments of taste.

Traditional presuppositions that these divisions are necessary or even efficacious are as fictitious as the Jack of Spades or the Cheshire Cat. The consequences of this traditional organization are enormous and, in greater part, inimical to the survival of any *civil* Society more advanced than simple *Gemeinschaft* Societies. I think it is worth the reminder that, so far as we know, the oldest living civilization on earth is probably that of the BaMbuti Pygmies and they are an endangered arrested civilization. All larger past civilizations in the historical record fell, and what historical evidence we possess about them supports Toynbee's thesis that, with very few and merely *apparent* exceptions (those involving putative natural disasters), *they fell from within*.

It is not true that their institutions of education were solely responsible for this. Both Critical leadership theory and the Idea of the Social Contract imply otherwise. What all of them do have in common with each other – and in common with all contemporary civilizations – is that they all lacked any institutions of social-natural science. It is also not true that the existing division of labor among the divers social sciences and humanities lacks all grounds of practical justification. Every special science is, by definition, different in some way from every other one. There is, however, a Critical difference between logical division of labor within a single *system* and artificial division of labor that cuts vital interdivisional ties and extinguishes systematic unity.

Such divisions, once put into practice, promote the development of habits that, in the absence of a situation-altering crisis, become self-perpetuating for so long as the Society that supports these mini-institutions survives. The prevalent, and so far apparently decisive, resistance that contemporary efforts to establish interdisciplinary practices in higher education face attests to the power of habit in social governance. My own university provides a sobering example. Barely six years ago, with the active support of a new administration, my university was making what

looked like a very prominent beginning towards establishing not only interdisciplinary research programs but interdisciplinary education programs as well. Since then there have been *four* changes in administration – a track record that outdoes the rate of successions of Roman emperors in the period immediately following Caesar Augustus and Tiberius. All of these new administrations have given lip service to the virtues of interdisciplinarity without, apparently, having the least understanding of what the phrase means. What they have all had in common is: an ironclad devotion to antisocial governance paradigms and the failed precepts of Taylorism; provocation of leadership dynamics producing destructive state-of-nature outlaw competitions within the organization; and either the provocation of breakdown or the outright administration-mandated abolition of all those interdisciplinary cooperations. Today that once apparently promising beginning to actualizing an interdisciplinary paradigm is over, its leaders have left or withdrawn into a Toynbee proletariat, and the interdisciplinary movement is as extinct here as the passenger pigeon – a fact that, like the cowed Roman Senate under Odoacer, the administration does not admit. The past four years here have been a showcase example of failed institution of governance with almost total disregard of the barest precepts of any sort of social contract.

The wider significance of this example is that it is merely one case in thousands of identical traditional instantiations of the institution of governance in Societies found in politics, in business and commerce, in public social institutes, and in the divers trades and professions. *All* of these mini-Societies interact, either competitively or cooperatively, within any large Society. All of them have their own special interests, and a Society that does not know how to reconcile these in a cooperative way *will* granulate, eventually break down, and ultimately disintegrate. Social-natural institution of public education cannot *cure* the problems of a granulating Society, but its lack as an institution for Progress in Society and as part of a Society's justice system *will* insure the eventual failure and death of that Society. That outcome is inherent in the social-nature of the phenomenon of civil Community. One thing no Society can survive is inadequacy in its corporate persuasive power. The dissection and juxtaposition of the educational disciplines is symptomatic of inadequate persuasive power in the body politic of a civil Community.

## § 5. A Closing Remark

It is not my personal nature to be a pessimist or to end on such a dolorous note as the above. It is my contention that Societies ***do not*** necessarily have to fall, that civilizations ***do not*** necessarily have to suffer arrest or breakdown, and that having the social assets of social-natural sciences, integrated in the Idea of the Social Contract, ***is*** the antidote to the historical malady. Bringing about a scientific revolution of this sort is neither easily nor quickly accomplished, and there are some Societies – some political, some commercial, some otherwise – that really are now too far into disintegration to be able to recover. Whether America or Europe are among them remains to be seen. But mental physics and Critical analysis of the phenomenon of civil Community both forecast that ***they will be*** if objectively valid changes are not brought about. I do not expect to see a culmination of these changes in my lifetime – I have not that many years of it left, I think.

But, as Lao Tzu said, a journey of a thousand miles must begin with a single step[2]. Critical analysis tells me that the most urgent immediate actions needed to take that step subsist in a social-natural science of leadership and a social-natural science of public education. A very long time ago I pledged to be a citizen of my country, in deed and not merely in entitlement, and for me therefore trying to make this first step actual is a deontological civic Duty to my country. It is for this reason alone that I have undertaken the project you have been reading. It is my hope that you also will endeavor to make this first step happen and personally enlist in the effort to bring the social-natural sciences that are needed for it into real and actual *Existenz*.

[2] Lao Tzu (6th century B.C., 64)

## § 6. References

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