Science and Poetry

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It is time now to speak un-metaphorically and un-mythically. We have been exploring such tropes as Prometheus, Faust, and Prospero in order, if possible, to see more clearly our quite literal and actual situation.

Let me summarize what we have been saying: we say that we are already into a new age, in which the basic structures of our society are changing. Most people refuse to recognize the change and are busy trying to preserve or restore the old: education reforms, economic strategies, strict concern for property and for profit; the insistence upon literacy as the one mark of qualifying for membership in society. But the new is among us in the street people, the hospices, the sense of world community, the decline of nationalism, the increased use of home computers, the television newscasts, rock music, the changed position of women, the de-emphasis of the family. We are into a new cultural situation, where individual enterprise, greed, and ambition will not be sufficient motives to operate society. There will have to be new attitudes about "who owns America?", what the ends of life are, and, above all, what education is.

The energy that was set loose in the world at the time of the Renaissance, as we have been saying, was Faustian. It was by nature expansive, dynamic, secular, and predatory. It took over and exploited science and technology. It led to the exaltation of pride and avarice as virtues rather than sins; to the glorification of experience as experience, to narcissism and self indulgence. It led to fragmentation, reductionism, relativism.

But, despite its brilliant achievements, its outlook is no longer satisfactory for any of us; and for many it has become outright oppressive, misleading, irrelevant, and dangerous. The rising crime rate testifies to the lack of effective ideals on which the young can base their lives. The exorbitant cost of health services, as well as of education, of maintaining the arts in the city, of governing cities and nations give evidence of the unreal relation between actuality and finance. The so-called "authorities" that set themselves up to give moral solutions to problems, or at least to expose them to analysis: Oprah Winfrey, Dr. Ruth, Sally, the newspaper columnists all these are indications that "fact" alone is not enough, that achievement in a material sense is hollow.

There was a kind of unspoken agreement at the beginning of capitalism that the good of one had to result, ultimately, in the good of all - profit from an expanding business, for instance. But capitalism now is devouring itself: a few greedy financial "magicians" exploit their ingenuity and cunning in a totally abstract operation that gives them immense profit without adding to the world's goods in an operation that depletes the stock market, exploits its margin of safety which had protected the entire operation. The economic burdens of militarism have become so great that nations are beginning, as I predicted some time back they would have to do, a program of disarmament. The resulting change of attitude is of course something at which we rejoice and which we must accept as a possibility for great good; but the ensuing financial problems in a suddenly demilitarized economy will not be easy to solve.
In other words, I see us plunging headlong into the traps set up by a world in trouble. Our systems are no longer working; hence we shall pass laws to help them work, in the mistaken belief that a little assistance will put them back on their feet. It is not a pretty sight when an age ends; the Middle Ages ended with, on the part of the Old Order, greed and abuses: the increased activity of the Inquisition and heresy-hunting; the sale of indulgences and the superstitious exploitation of piety. On the part of the New, it began with the destruction of monasteries and the burning of cities. In England, an entire language (Anglo-Saxon), already modified by the Norman conquest, was dropped and forgotten; manuscripts of great literary worth written in that language floated around in society, some used to wrap butter in. Absolute monarchy - the divine right of kings - came in, whereas before the king had been the representative of sacred order among his people, responsible to them and to God for his justice. The physical world lost its sacramental sense and became an object for manipulation. Murder and treachery, intrigue and ambition established governments. The people began being what they had never been before: a collective aggregate to be governed and manipulated, while allowing them the comforting conviction, from time to time, by allowing their vote to be counted in a kind of national true/false examination they were determining their own government, their own way of life. And, perhaps more important than anything else, the system of education was changed: a new logic was introduced (wherein ornament, elegance, beauty was eschewed); metaphysics (that study that had governed the thought of Socrates, Plato, Aristotle, and the medieval philosophers); in literature the didactic was separated from the aesthetic; society was redefined as an aggregate rather than as an organic body with its own inner wisdom. The practical - in terms of learning the polite skills that influence important people - became the education of a gentlemen. Machiavelli’s notions of learning how to convince people rather than how to establish virtue became the dominant concern. Hobbes and Locke, and later the British empiricists, began their work of establishing only quantity - only extension, that which could be objectively verified - as the real. Measure, the mark of the Renaissance Quality - now called value - was relegated to the subjective and person. You have your own ideas of beauty, justice, the good; I have mine. We each have our own values.

We are, in a similar way, continuing to bring up our young to fit into a moribund society. They will not be fitted to live in the new epoch without violent repercussions, much less to guide it through its difficult transitions.

For any hopeful solution, education is the most important, the most efficient, the most ready-to-hand alternative. Schools are set up; most of the young in our country attend them. Time is set aside in individual lives and the lives of communities for teaching and learning; all agree that the development of the young, their future in society is the most important concern in our educational system. But we cannot afford to keep on turning out young people trained for "careers" with no notion of the underlying principles of the society in which they will live. We cannot continue to turn out specialists' people with vocational training young people who want most "to get ahead." Businesses and professional schools can take care of specialized education, Our general system is too expensive to have as its aim only the economic betterment of individuals. We need nothing less that to turn out human beings who contain within themselves the "genetic seeds" of what it is to be fully human. They will have to
educate themselves in the different callings that will be needed. But they need to know, from within themselves, the ideals and values of the human race, its hopes and aspirations, its achievements and its failures. We have to turn out liberally educated youngsters - whatever their mental ability, whether college bound or otherwise.

Teachers are expected to educate and to lead into learning: in the one, the values and principles of the culture are inculcated into the young. In the other, the mind is quickened and made to see the meaning of a body of material. In both, it is the imagination that enables the process to occur. In neither is the acquisition of skills and information the primary goal. The teacher is always leading the pupil into understanding.

Other agencies than the schools and the teachers in the schools, as we have said, can teach the various trades and professions and much more efficiently. As persons concerned with education, then, we need to have absolutely clear in our minds the following principles:

1. All students need a liberal education, which is study within a carefully constructed curriculum, made up of various disciplines, so that students begin to reproduce in themselves the collective experience of the race. Education is done at a highly structured pace. Learning, in contrast, is done at one's own pace, and once one has been introduced to it, it can and should continue throughout life.

2. Education is a process, a sequence of operations headed toward a definite end. It is a formal process, following rules and established forms; thus it implies a social function, an activity duly authorized by society, guided by professional authorities, and undertaken in an orderly fashion. The process is synthetic learning, an artificial action, requiring an artfully designed, purposeful amalgamation of selected material. The entire praxis is symbolic, in that what is learned comes to stand for more than itself, to suggest intangible and universal ideas, moving always toward contemplation. In the operation, concrete and individual instances suggest larger entities, by means of metaphoric, synechdochic, or elliptical modes of thought. Metaphor connects one body of material with another, the intellect bridging a gap by the discernment of similarities. Synechdoche takes the part for the whole, calling up an intuition of order and harmony; ellipsis engages an incomplete figure that must be filled in by an imagination of unity if one is to apprehend the entire pattern. These tropological processes are more than figures of speech; they are figures of thought, the means by which the intellect intuitively apprehends meaning.

With this analysis in hand, we are saying that education makes use of carefully and economically selected data purposefully arranged to indicate the whole of reality, working by condensation, compression, incompleteness, suggestion. The end point of the process is the organizing of this material into a structure in the minds of students, a logical framework within which a student may reason from point to point. The structure is to be such as to provide an addressable place for true learning to reside, whenever it is acquired. Meaning, so the definition implies, exists in the relationships of these various nodules of learning. There it is. Education is a formal process of synthetic
learning wherein symbolic material is organized into a significant structure. From time to time we must remember that education and learning are not synonymous, that education takes place in a highly limited arena at a crucial stage of life and that learning, once initiated, is a continuous process.

We might notice the predominantly spatial sense in which this definition is framed. Education in its interstices is spatial. And, indeed, education as an activity occurs in a restricted space and is socially directed a communal affair. Learning, on the other hand, is quite a different activity. It is informal, natural, concerned with actual things, loosely organized in such a fashion that meaning is local and specific. It is a lifelong pursuit, internally directed, and intensely personal.