

EDUCOLOGY OF THE FREE

*To Harold
in friendship and collegiality*

liz

by

ELIZABETH STEINER

Indiana University



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To
GEORGE S. MACCIA
because
we are friends together

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Foreword

Events seen as unrelated sometimes combine to provide the setting for splendid new visions. A series of such events recently occurred at Colgate University.

In November, 1965, Colgate University received the largest individual gift in its history from Judge A. Lindsay O'Connor and Olive B. O'Connor. One-third of the money was used to build a campus center; one third endowed the Olive B. O'Connor Professorship of Literature and the other third funded the A. Lindsay O'Connor Professorship of American Institutions.

Judge O'Connor, for many years on the bench of the New York State Supreme Court in the 6th Judicial District, and his wife, Olive, were deeply committed to Liberal Education. Their affection for Colgate led them to realize that if scholars of international stature would come to the college for a period of time, the university's high academic standards would be even further enhanced. Since the filling of the first professorship in Literature in 1967 and the professorship of American Institutions in

1968, the O'Connor chairs have enriched the intellectual atmosphere at the college.

A second event occurred in July, 1978. In meetings, that month, the chairpersons of the Departments in Colgate's Social Science Division met to decide which department in the division would receive the A. Lindsay O'Connor Professorship for the next year. One of the departments under consideration was the Education Department. Education Departments in many institutions have as their central concern the professional preparation of teachers. At Colgate the Education Department, interested, of course, in teacher preparation, has another vital role. In keeping with its place in a Liberal Arts College, the department is deeply concerned with the study of educative institutions and processes. Educative institutions are intimately linked with economic, political, and other institutions and are recognized at Colgate as worthy of study in their own right.

It was during that July that colleagues in the other social sciences again made clear their commitment to the study of educative institutions and processes by granting the O'Connor Professorship of American Institutions to the Education Department at Colgate. Intensely aware of the tradition of excellence in the men and women who held the chair previously, the members of the Education Department were determined to live up to the faith shown in them by their colleagues. An international search was begun, candidates were screened, and one stood above the rest.

Elizabeth Steiner's work and reputation in many fields commanded attention. From an undergraduate major in zoology with minors in Chemistry and Philosophy, to two graduate masters' degrees in Biological sciences, science

of education, philosophy and psychology, to the Ph.D. in Philosophy with a minor area in Biological sciences, Elizabeth Steiner's intellectual tour through higher education prepared her for extraordinary academic scope. She taught and studied in a wide variety of disciplines ranging from chemistry and microbiology to philosophy and philosophy of education. She did this throughout the United States and Canada. In a career that led to the rank of Professor of Philosophy and Education in the School of Education in Indiana University, she published numerous articles in distinguished journals and directed major research projects. She authored *Women and Education*, *Logical and Conceptual Analytic Techniques for Educational Researchers*, and *Education and American Culture*.

The third set of events occurred in the spring of 1979. Dr. Steiner chose to present to the faculty and students at Colgate a series of three lectures. Her deep commitment to liberal values, her life-long study of Liberal Education, her philosopher's bent for analysis, her interest in the nature of knowledge, and her pioneering work in the study of Education as a discipline were all combined with great power in three lectures to provide the startlingly cogent synthesis: *EDUCOLOGY OF THE FREE*.

This new holistic vision of Educology, the study of Education as a discipline, now can reach a larger public with the publication of the lectures. The logic for the discipline of Educology lies herein.

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I

Liberalism and Liberal Education

The thesis is educology of the oppressor; and the anti-thesis, educology of the oppressed. I shall present educology of the free as a possible synthesis.

To begin, what is educology of the oppressor? Paulo Freire, the formulator of educology of the oppressed, provides an answer. Freire worked with impoverished adults of Brazil. In the context of literacy education, he developed for these poor an educational theory that is called 'pedagogy of the oppressed.'¹ Since 'educology' refers to the education of all age groups and 'pedagogy' only to children, I have substituted 'educology' for 'pedagogy.'^{N.B.} Freire was confronted in Brazil with educology of the oppressor. The tradition in Brazilian education, according to Freire, is to work *on* students not *with* them² and in Brazil today such a relationship between teacher and student still exists.³ "This relationship involves a narrating Subject (the teacher) and patient, listening objects (the students)."⁴

Narration (with the teacher as narrator) leads the students to memorize mechanically the narrated content. Worse yet, it turns them into "containers," into "receptacles" to be "filled" by the teacher. The more completely he fills the receptacles, the better teacher he is. The more meekly the receptacles permit themselves to be filled, the better students they are.⁵

"Narrative education" is "the banking concept of education." "Education thus becomes an act of depositing in which the students are the depositories and the teacher is the depositor."⁶

The banking conception of education is not unique to Brazil. Cardinal Newman recognized this conception at work in nineteenth century British society, although he labeled it differently: 'education by acquirement.'

A narrow mind is thought to be that which contains little knowledge; and an enlarged mind, that which holds a great deal, and what seems to put the matter beyond dispute is, the fact of the great number of studies which are pursued in a University, by its very profession. Lectures are given on every kind of subject; examinations are held; prizes are awarded. There are moral, metaphysical, physical Professors; Professors of languages, of history, of mathematics, of experimental science. Lists of questions are published, wonderful for their range and depth, variety, and difficulty; treatises are written, which carry upon their very face the evidence of extensive reading or multifarious information; . . . what is grasp of mind but acquirement? . . .

And yet this notion is, I conceive, a mistake, and my present business is to show that it is one, and that

the end of a Liberal Education is not mere knowledge; or knowledge considered in its matter. . . .'

I have no doubt that the banking or acquirement conception of education can be recognized in twentieth century America and an apt label would be 'conservative education.' 'Conservative' in this context is taken as the contradictory of 'liberal.' Thus, some so-called 'liberal arts colleges' are in reality conservative arts colleges, as Professor James Clarke has noted.

The banking or acquirement or conservative conception of education is a theory for a dehumanizing, and so an enslaving education. In a dehumanizing education, the student is not guided to "a clear conscious view of his own opinions and judgments, a truth in developing them, an eloquence in expressing them, and a force in urging them."⁸ Rather such education "attempts to control thinking and action, leads men to adjust to the world, and inhibits their creative powers."⁹ Humanity is suppressed, for "to alienate men from their own decision-making is to change them into objects."¹⁰ To be human is to be a subject, a decision-maker, and not an object. "Education as the exercise of domination stimulates the credulity of students, with the ideological intent (often not perceived by educators) of indoctrinating them to adapt to the world of oppression;"¹¹ humanity is oppressed. Surely, educology is of the oppressor.

Educology of the oppressed demands a different educational perspective. The banking conception must give way to the problem-posing one; the acquirement to the acquiring; and the conservative to the radical.

Under the problem-posing or acquiring conception of education, education consists in "acts of cognition, not

* Are these mutually exclusive

transferrals of information."¹² The objects that the cognitive actors, both the teacher and the student, will reflect upon are the world, and not the private ideational property of the teacher which is to be conserved.¹³ Students become "critical co-investigators in dialogue with the teacher."¹⁴

Under the radical conception of education, which the problem-posing or acquiring conception simultaneously must be, action is involved. The essence of a dialogue are words, and a true word must at the same time be a praxis. "Thus, to speak a true word is to transform the world."¹⁵ "... the teacher-student and the students-teachers reflect simultaneously on themselves and the world without dichotomizing this reflection from action, and thus establish an authentic form of thought and action."¹⁶ Radical education, hence, is conscientization, i.e. the development of critical awareness through dialogical educational programs concerned with social and political responsibilities.¹⁷ Through critical awareness, transformation of the world can occur.¹⁸ Transformation is revolutionary too. The interests of the oppressors cannot be served, and so revolution is required. "No oppressive order could permit the oppressed to begin to question. Why?"¹⁹ Freire affirms clearly revolution in "A Letter to a Theology Student."

We, as Christians, have an enormous task to perform, presuming that we are capable of setting aside our idealistic myths and in that way sharing in the revolutionary transformation of society, instead of stubbornly denying the important contribution of Karl Marx.²⁰

Educology of the oppressed is an educology of revolution.

"... only a revolutionary society can carry out this education in systematic terms, the revolutionary leaders need not take full power before they can enjoy the method."²¹ "The pedagogy of the oppressed ... is a task for radicals."²²

Freire recognizes only sectarianism and radicalization. "Sectarianism mythicizes and thereby alienates; radicalization criticizes and thereby liberates."²³ The conservative is Freire's rightist sectarian who "attempts to domesticate the present so that (he hopes) the future will reproduce this domesticated present. . . ."²⁴ The radical, on the other hand, enters into reality to transform it and so fights at the side of the oppressed.²⁵

A synthesis between educology of the oppressor and educology of the oppressed requires recognition of yet a third category. This category I shall call 'liberalism,' even though use of that term could conjure up a vision of a dead or dying creed rather than an viable one. And I have no doubt that Freire would place liberalism either under conservatism or leftist sectarianism. The latter categorization would be based upon projection of human future through evolution rather than revolution. Such a projection, for Freire, could be only a myth. But is it? To propose educology of the free is to accept the possibility of an evolved human future and of a viable liberalism.

Liberalism, according to Dewey, contains three elements of permanent value: liberty, individuality, and intelligence.²⁶ Freedman also recognizes these enduring social values.²⁷ I shall characterize liberalism, therefore, in terms of these values. Kant's thought will be the source of meaning for liberty, individuality, and intelligence.

Intelligence or rationality can be explicated by stating

that subjective choosing ought to be objective. Kant set forth this principle as follows:

Act only on the maxim whereby thou canst at the same time will that it should become a universal law.²⁸

This principle is one of normalcy for rational beings. It is a requirement for being rational. To be counted among the rational, what is held should be for good reasons, i.e. reasons that would be compelling to other rational beings. One must be objective, and so use the method of intelligence.

But only subjective choosing which is objective is also a will conditioning itself or a good will. Kant's expression of this principle is

So act that the will could at the same time regard itself as giving in its maxims universal laws.²⁹

This is the principle of autonomy, and so establishes liberty. It is a requirement for freedom. Unless one uses the method of intelligence, one is not free to decide, one is a slave to inclination. One is forced to believe what pleases. One is not autonomous.

Finally, subjective choosing which is objective is respect for the self and other selves.

So act as to treat humanity, whether in thine own person or in that of any other, in every case as an end withal, never as means only.³⁰

The above statement of the principle by Kant shows it to be one of humanity. It establishes personhood and so in-

violability, and this is a requirement for community. Since a decision-maker is a subject (an end) and not an object (merely a means) and since objectivity implies other selves, individuality must be honored and a community of selves acknowledged.

All together these principles are the categorical imperative which is the basis for rational conference and agreement, i.e. for liberalism. Yet, if liberalism is to be viable, these principles must be given an interpretation that would make them relevant to our time.

Consider *laissez faire* liberalism. Under this kind of liberalism, liberty was interpreted as free economic activity of individuals leading through competition to effective production of the socially needed commodities and services. But, as Dewey states it,

in identifying the expression of liberty in all its modes with extension of their particular brand of economic liberty, they completely failed to anticipate the bearing of private control of the means of production and distribution upon the effective liberty of the masses in industry as well as in cultural goods. An era of power possessed by the few took the place of the era of liberty for all envisaged by the liberals of the early nineteenth century.³¹

No wonder that *laissez faire* liberalism is today's conservatism.

Consider a non-social liberalism. Under this kind of liberalism, the individual standpoint not the social is emphasized. For example, intelligence is seen as "an individualistic possession, at best enlarged by public discussion" rather than a "procedure of organized cooperative inquiry."³² Non-social liberalism also would be non-

viable. To be a viable alternative to radicalism, liberalism must be social. We must all be socialists now. Liberalism must be new liberalism which Freedman characterizes through "Hobson's apt summary"

as a fuller appreciation and realization of individual liberty contained in the provision of equal opportunities for self-development. But to this individual standpoint must be joined a just apprehension of the social, viz., the insistence that these claims or rights of self-development be adjusted to the sovereignty of social welfare.³³

Rawls extends the interpretation of the Kantian principles of justice into the social and so gives us a demonstration of viable liberalism. The two principles of social justice which Rawls takes to be chosen by human beings who are rational are as follows:

First: each person is to have equal right to the most extensive basic liberty compatible with a similar liberty for others.

Second: social and economic inequalities are to be arranged so that they are both (a) reasonably expected to be to everyone's advantage, and (b) attached to positions and offices open to all.³⁴

Rawls restates the second principle to clarify that a difference principle operates as well as a principle of equality of opportunity:

Social and economic inequalities are to be arranged so that they are both (a) to the greatest benefit of the least advantaged and (b) attached to offices and

this ignores "losers" viewpoint
positions open to all under conditions of fair equality of opportunity.³⁵

This second principle is not one of redress in the sense of requiring society to try to compensate for inequalities so that everyone on a fair basis could compete with everyone else. However, the second principle does demand recognition that the advantaged are not to gain because of their native assets or social circumstances but because of benefiting the disadvantaged. The advantaged are not deserving of greater social and economic rewards than the disadvantaged, inequalities of birth or station are not merited. Hence, no one should gain or lose from one's arbitrary place in the distribution of material assets or social circumstances without gaining or receiving compensatory advantages in return. In other words, the second principle is an agreement to share in the benefits of distribution of natural talents whatever it might be. Rationality, therefore, is non-supportive of either meritocracy or technocracy. These are unjust social arrangements. Still the second principle does not perpetuate the *status quo*. Earlier generations owe to later generations the implementation of policies, including eugenic ones, which will, if it can be done, move the society toward equal talent.

Through social liberalism, there is a going beyond the oppressor-oppressed relationship. Until one goes beyond such a relationship, social change cannot depend upon intelligence alone; it must depend at least in part on force. Freire recognized that intelligence between oppressor and oppressed was not possible. "Dialogue between the former oppressors and the oppressed as antagonistic classes was not possible before the revolution, it continues

to be impossible afterwards."³⁶ And Freire had to admit that intelligence was only possible on the part of those oppressed who accepted the conclusion that the revolution was essential. "The revolution loves and creates life; and in order to create life it may be obliged to prevent some men from circumscribing life."³⁷ Hence, a revolution cannot be forged through intelligence arising out of dialogue among equals who freely express their ideas. The participants must be the oppressed who are revolutionaries. Freire's educology is of revolutionaries.

Social or new liberalism turns to the method of democracy to settle conflicts and evolve social change.

The method of democracy—insofar as it is that of organized intelligence—is to bring these conflicts out into the open where their special claims can be seen and appraised, where they can be discussed and judged in the light of more inclusive interests than are represented by either of them separately.³⁸ *Dewey*

Its method is solely that of intelligence.

Intelligence after millions of years of errancy has found itself as a method, and it will not be lost forever in the blackness of night. The business of liberalism is to bend every energy and exhibit every courage so that these precious goods may not even be temporarily lost but be intensified and expanded here and now.³⁹ *J.D.*

And to do this education is of primary importance. As Dewey put it: "Its [Liberalism's] work is first of all education. . . ."⁴⁰ What is required then is a theory of liberal education, an educology of the free.

Aristotle sorted out the useful from the liberal in these words,

Of possession those rather are useful which bear fruit, those *liberal*, which tend to enjoyment. By fruitful, I mean, which yield revenue; by enjoyable, when *nothing accrues of consequence beyond the using*.⁴¹

Useful possessions, therefore, are instrumental. They are for something. Material goods, for instance, are useful; they are instrumental to our personhood; they are not the good. In Aristotle's words, "wealth is not the good . . . for it is merely useful and for the sake of something else."⁴² The good is happiness, *eudaemonia*, all that is proper to a person.

Now we come to happiness, which we all declare to be, and which seems in fact to be, the final good and the most complete thing, and this we maintain to be identical with doing well and living well.⁴³

Rationality is happiness, for

. . . we state the function of man to be a certain kind of life, and this to be activity or actions of the soul implying a rational principle, and the function of a good man to be the good and noble performance of these, and if any action is well performed when it is performed in accordance with the appropriate excellence. . . .⁴⁴

Thus, rationality is liberal and a matter of enjoyment.

Aristotle does note that happiness comes as a result of learning.⁴⁵ Consequently, liberal education, or guidance

of one's intended rational development, is possible. Newman characterizes liberal education in Aristotelian terms.

... Liberal Education, viewed in itself, is simply the cultivation of the intellect, as such, and its object is nothing more or less than intellectual excellence.⁴⁶

Following Aristotle, Newman distinguishes professional education from liberal education. The distinction is not based upon mental cultivation, since "professions afford scope for the highest and most diversified powers of mind."⁴⁷ Requirement of special knowledge is one of the essential attributes of a profession. Why, then, this distinction between professional and liberal education?

... because that alone is liberal knowledge, which stands on its own pretensions, which is independent of sequel, expects no complement, refuses to be *informed* . . . by any end, or absorbed in any art in order duly to present itself to our contemplation.⁴⁸

Newman goes on to give us an example.

If for instance, Theology, [religion as a study] instead of being cultivated as a contemplation, be limited to the purposes of the pulpit . . . it does lose the particular attribute which I am illustrating . . . for Theology thus exercised is not simple knowledge, but rather an art or a business making use of Theology. And thus it appears that even what is supernatural need not be liberal. . . .⁴⁹

The same could be said of Educology (education as a study). Educology would be liberal when cultivated as a

contemplation and not liberal when limited to the purposes of the classroom.

To distinguish between liberal education and professional education in terms of mental cultivation, the kind of mental cultivation which is the end of liberal education must be characterized. The mental cultivation of liberal education is illuminative reason which Newman describes thusly:

That perfection of the Intellect . . . is the clear, calm, accurate vision and comprehension of all things, as far as the finite mind can embrace them, each in its place, and with its own characteristics upon it.⁵⁰

The mental cultivation of professional education is pointed toward the peculiar business of each profession.⁵¹

Even though liberal education is sorted out as non-utilitarian, there is a sense in which one may say that liberal education is useful. In Newman's words, the sense is:

I say that a [liberally] cultivated intellect, because it is a good in itself, brings with it a power and a grace to every work and occupation which it undertakes, and enables us to be more useful, and to a greater number.⁵²

'Liberal' in the Aristotelian context also may be contrasted with 'servile,' bodily or non-mental. Those who were not free, slaves, were expected to follow more practical pursuits. Practical pursuits were taken to involve largely bodily labour. 'Liberal,' thereby, became associated with the free. Only the free could develop their rationality.

The distinction between liberal and servile is no doubt the source of our separation of liberal studies from vocational, or what is more commonly called 'technical studies.' This distinction has and continues to deny a liberal education to a large portion of our population. The answer, of course, does not lie in making every occupation a profession. Servility will be only perpetuated through conflation of mindless activities with mindful ones.

In liberalism, a democratic sense of 'freedom' is associated with 'liberal.' To be a slave contradicts personhood. So persons cannot be sorted into categories labeled 'Free Men' and 'Slaves.' Moreover, a positive sense of 'freedom' is associated with 'liberal.' Freedom arises out of rational development and is not merely a matter of non-constraint, as in not being a slave. To be rational is to be free. Liberal education, therefore, is the freeing of human beings through the development of their rationality.

Within social liberalism, the development of rationality with respect to its social nature and its social use extends the conception of liberal education. Rationality or intelligence is not "an individualistic possession, at best, enlarged by discussion," but rather it is a "procedure of organized cooperative inquiry."⁵³ Mental cultivation, then, must extend beyond illumination into comprehension of methods of cooperative inquiry. Rationality or intelligence is not "discussion and persuasion," but rather "approximation to use of scientific method in investigation and of the engineering mind in the invention and projection of far reaching social plans."⁵⁴ Mental cultivation must be extended further. "Education with inert ideas is not only useless: it is above all things, harmful—*Corruptio optimi, pessima*."⁵⁵ Illuminated ideas and

comprehended methods must be extended into action. Praxis should be cultivated. And praxis is wisdom. To state the nature of liberal education in Whitehead's words:

What I am anxious to impress on you is that though knowledge is one chief aim of intellectual education, there is another ingredient, vaguer but greater, and more dominating in importance. The ancients called it "wisdom." . . . Now wisdom is the way knowledge is held. It concerns the handling of knowledge, its selection for the determination of relevant issues, its employment to add value to our immediate experience. This mastery of knowledge, which is wisdom, is the most intimate freedom available.⁶⁶

With this explication of liberal education as extended through social liberalism, the conception of education which is educology of the free has emerged.

FOOTNOTES

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7. Newman, John Henry, *The Idea of a University*. Edited by I. T. Ker. Oxford at the Clarendon Press, 1976, p. 117.
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15. Ibid., p. 75.
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38. Dewey, *Liberalism and Social Action*, p. 79.
39. Ibid., p. 93.
40. Ibid., p. 58.
41. Aristotle, *Rhetorica*, I. 5, cited in Newman, *The Idea of a University*, p. 102.
42. Aristotle, *Ethica Nicomachea*. Translated by W. D. Ross. Oxford University Press, 1915, Book I. 5, 1096a.
43. Aristotle, *Magna Moralia*. Translated by W. D. Ross. Oxford University Press, 1915, Book 13, 1184b.
44. Aristotle, *Ethica Nicomachea*, Book I. 7, 1098a.
45. Ibid., Book I. 9, 1099b.
46. Newman, *The Idea of a University*, p. 111.
47. Ibid., p. 100.
48. Ibid., p. 101.
49. Ibid.
50. Ibid., p. 124.
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52. Ibid., p. 146.
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II

Liberal Education and Knowledge

Through social liberalism, the conception of liberal education evolves from

- ① cultivation of the intellects of Free Men for their enjoyment
- and
- ② cultivation of the words of Slaves for their transformation of the world through revolution
- to
- ③ cultivation of the social intelligence of human beings for their freedom.

Thus, from the thesis,

educology of the oppressor,

and the antithesis,

educology of the oppressed,

emerges the synthesis,

educology of the free.

This emergent, however, must be given more sense.

To begin the giving of sense, the term after 'liberal,' 'education' will be defined. Defining is not an arbitrary affair. Logical analysis of intelligent discourse about education, educology, yields a sense of education which combines teaching and studenting. 'Education' is defined as a teaching-studenting process.

An appeal to intelligent discourse is warranted, for in intelligent discourse one finds the results of inquiry. Another example would be logical analysis of discourse about matter and energy, physics, to obtain a definition of 'space.'

Education as a teaching-studenting process rules out education as simply learning. The learning must be guided, for teaching is guiding learning; and the learning must be intended, for studenting is deliberate learning on the part of the learner.

'Learning' can refer to either the process of psychical development or the attainment of psychical development. Notice that one can say either

X is learning

or

X has learning.

In the second sentence, 'learning' is an achievement term, and, therefore, an elliptical expression for learning that has been effected, i.e. effective learning.

Whether 'learning' is used as a task or an achievement term, its referent can occur without teaching. Guidance of learning is not a necessary condition for learning. Learning can be an accidental affair. Such fortuitous

learning is exemplified by enculturation processes. Education, however, is an intentional transmission of culture. Unfortunately, socialization is most often mindless learning, a matter of drift.

Yet learning can be mindful and not be education. One can deliberately set out to learn by discovery. Learning by discovery is one way to characterize inquiry. No teaching is involved in inquiry, although being taught to inquire is a prerequisite for doing it. It is patent that one should not always be taught. Education must give way to inquiry for the advance into novelty.

To be learning within education, the learning must be intended by the learner. The learner must deliberately engage in learner tasks. This follows from education being a process involving human learners. Since human learners are human beings, they are active not reactive learners. They are I's engaged in their own psychical development. In comparison, dogs are not so engaged, they are reactive learners. Consequently, dogs are trained not educated. Their behavior can be modified through contingencies. Radical or metaphysical behaviorism suffices as a framework for training; mental states need not be acknowledged.

Dewey, by not restricting education to learning which is both guided and intended, made education as broad as human being in the world. It encompassed too much. Dewey conceived "education as the process of forming dispositions, intellectual and emotional toward nature and fellow men."¹ Education, for him, was taking place in all our transactions with society. "When self-hood is perceived to be an active process, it is also seen that social modifications are the only means of changed personalities."²

A definition also can encompass too little, and thereby be flawed. Taking education as schooling would be an instance of this kind of mistake. There are other social arrangements in which the teaching-studenting process occurs. To name a few: homes, churches, and corporations. Note too that the role of teacher and of student need not be institutionalized and hence legitimized. The parent is not called 'a teacher,' but when the parent guides learning then she or he is a parent-teacher. Likewise with a son or daughter. When a son or daughter intends to learn under guidance of a parent or parents, the son or daughter becomes respectively son-student or daughter-student.

Given that education is a process in which a learner engages in tasks in order to develop psychically and does so under the guidance of another or others, what does the term 'liberal' add to the characterization of the process? The evolution of the conception of liberal education through social liberalism gives reply to this question: a process in which a learner engages in inquiry tasks in order to become socially intelligent and does so under the guidance of one who has mastered the methods and funds of social intelligence.

To become socially intelligent is to be democratic in one's living.

Democracy as compared with other ways of life is the sole way of living which believes whole-heartedly in the process of experience as end and as means; as that which is capable of generating science which is the sole dependable authority for the direction of further experience and which releases emotions, needs, and desires so as to call into being the things that have not existed in the past. For every way of

life that fails in its democracy limits the contacts, the exchanges, the communications, and interactions by which experience is steadied while it is also enlarged and enriched. The task of this release and enrichment is one that has to be carried on day by day. Since it is one that can have no end till experience itself comes to an end, the task of democracy is forever that of the creation of a freer and more humane experience in which all share and to which all contribute.³

Becoming free in one's living, or liberal living, depends upon mastering the arts of so living. What then are the arts of social intelligence or the liberal arts? I take these arts to be three in number: theoretical, qualitative, and performative. These arts are derived from the kinds of structures involved in rationality.⁴

Theoretical structures are universals. They allow one to group and shape facts; to have "clear, calm, accurate vision and comprehension of all things, as far as the finite mind can embrace them, each in its place, and with its own characteristics upon it."⁵

Qualitative structures are pervasive qualities. They allow one to be sensitive to the immediacy of the given, to the uniques which are experience, since situations possess unique pervasive qualities which unify experiential situations and set them apart.

Performative structures are methods. They allow one to act in a procedurally appropriate way and thereby change positively the given.

Because the qualitative and performative structures have been little acknowledged within *academia*, I shall consider them in greater depth. The qualitative domain is most apparent to us in the arts. Who can fail to grasp

the pervasive quality of Gericault's *Epsom Derby*—the way the horses really run on the canvas—or of Rouault's *Flight into Egypt*—being there in a chill dawn in an unbounded landscape with sky extending over one? Also each person, thing, and situation is unique and has its own pervasive quality. Plato sets forth his discernment of the qualitative in the *Theaetetus*:

Socrates: . . . suppose that I imagine Theaetetus to be a man who has nose, eyes, and mouth, and every other member complete; how would that enable me to distinguish Theaetetus from Theodorus, or from some other barbarian?

Theaetetus: How could it?

Socrates: Or if I had further conceived of you, not only as having nose and eyes, but as having snub nose and prominent eyes, should I have any more notion of you than of myself and others who resemble me?

Theaetetus: Certainly not.

Socrates: Surely I can have no conception of Theaetetus until your snub-nosedness has left an impression on my mind different from the snub-nosedness of all others whom I have ever seen, and until your other peculiarities have a like distinctness, and so when I meet you tomorrow the right opinion will be re-called.⁶

The phrase, "right opinion," makes patent Plato's taking the qualitative to be non-rational. For Plato, to be real is to be rational and to be rational is to be unchanging. Universals or forms are permanent and thus rational; pervasive qualities are not. The Academy, therefore, did not

take the qualitative to be one of its arts. Aristotle concurred. "... knowledge is judgment about things that are universal and necessary and the conclusions of demonstration. . . ." Consequently, the Lyceum too ruled out the qualitative. The tradition has persisted into the present.

Since universals function in the life activity of individuals

We are active beings from the start and are naturally . . . engaged in redirecting our action in response to changes in our surroundings.⁸

and since their function is guided by the situation

. . . the unsettled, indecisive character of the situation with which inquiry is compelled to deal affects all the subject matters that enter into all inquiry . . . it affects all of the suggestions, surmises, ideas that are entertained as possible solutions of the problem.⁹

one must be sensitive to situations, be able to grasp their pervasive qualities and so take situational standpoints. A break must be made with a tradition which rules out the qualitative art.

Yet it is not enough to be theoretically adequate and sensitive, social intelligence demands action. The inquirer is not a spectator looking into reality, contemplating it, but is a part of reality, transacting with it.

Registration of what has taken place, reference to precedent, is believed to be the essence of experience. Empiricism is conceived of as tied up to what has been, or is "given." But experience in its vital form is experimental, an effort to change the given; it is characterized by projection, by reaching forward

into the unknown; connection with a future is its salient trait.¹⁰

Experimental methods are required to wrought from the unknown freer and more humane experience.

Philosophy recovers itself when it ceases to be a device for dealing with the problems of philosophers and becomes a method, cultivated by philosophers, for dealing with the problems of man [woman].¹¹

The taking of performative art to be liberal also runs counter to the prevailing tradition. This tradition is well-stated by Newman: "Liberal education . . . is simply the cultivation of the intellect, as such, and its object is nothing more or less than intellectual excellence."¹²

I consider knowledge to have its end in itself . . . it is a real mistake to burden it with virtue or religion as with mechanical arts. Its direct business is not to steel the soul against temptation or to console it in affliction, any more than to set the loom in motion, or to direct the steam carriage; be it ever so much the means or condition of both material and moral advancement, still taken by and in itself, it as little mends our hearts as it improves our temporal condition. . . . Knowledge is one thing, virtue is another; good sense is not conscience, refinement is not humility, nor is largeness and justness of view faith. Philosophy, however enlightened, however profound, gives no command over passions, no influential motives, no vivifying principles. Liberal Education makes not the Christian . . . [a cultivated intellect] may attach to the man of the world, to the profligate, to the heartless. . . .¹³

This separation of moral from intellectual excellence, and thereby moral from liberal education, is based upon Aristotle's separation of *theoria* and *praxis*. '*Theoria*' signifies rational activities related to knowledge for its own sake and '*praxis*' rational activities related to the human's moral and artistic activity. Moral activity pertains to doing, *agibilia*, on which depends a person's goodness or badness, while artistic activity pertains to making, *facibilia*, on which depends a work's goodness or badness. Artistic activity in this context is not to be taken in the contemporary sense of activity associated only with fine arts. Maritain sorts out the useful arts and the fine arts which together constitute art:

. . . in the useful arts, what the will or appetite demands is the satisfying of a particular need . . . in the fine arts what the will or appetite demands is the release of the pure creativity of the spirit, in its longing for beauty.¹⁴

Medicine, for example, would be a useful art; and poetry, a fine art. But useful arts should not be limited to professional arts. Technical or vocational arts, like that of an automobile mechanic, too are useful arts.

Aristotle's exposition of states of mind by which we have truth further characterizes the difference between *theoria* and *praxis*. These states are scientific knowledge, philosophic wisdom, and practical wisdom.¹⁵

Scientific knowledge is judgment about things that are universal and necessary and the conclusions of demonstration, and all scientific knowledge follows from first principles (for scientific knowledge involves apprehension of a rational ground).¹⁶

Scientific knowledge being of necessity is eternal; "for things that are of necessity in the unqualified sense are all eternal; and things that are eternal are ungenerated and imperishable."¹⁷ Scientific knowledge is the end of rational activities called '*theoria*.'

However, scientific knowledge is not the sole end of the activities of *theoria*. There is knowledge of the first principles from which scientific knowledge follows. "... the first principle from which what is scientifically known follows cannot be an object of scientific knowledge. . . ." ¹⁸ It is "*intuitive reason* that grasps the first principles."¹⁹ Where there is excellence in the rational activities which is *theoria*, there is philosophic wisdom. Philosophic wisdom "is scientific knowledge, combined with intuitive reason, of the things that are highest in nature."²⁰

All rational activities are not scientific, some are calculative or deliberative. One calculates or deliberates about doing and making, while one contemplates that which is. These rational activities of deliberation constitute Aristotelian *praxis*. Excellence as regards the rational activities of deliberation is practical wisdom.

Practical wisdom . . . is concerned with things about which it is possible to deliberate; for we say that this is above all the work of the man [woman] of practical wisdom, to deliberate well, but no one deliberates about things invariable, nor about things which have not an end, and that a good that can be brought about through action. The man [woman] who is without qualification good at deliberating is the man [woman] who is capable of aiming in accordance with calculation at the best for man [woman] of things attainable by action. Nor is practical wisdom

concerned with universals only—it must also recognize the particular, for it is practical, and practice is concerned with particulars.²¹

That qualitative and performative arts have not been included in the liberal arts can be noted too from a consideration of the liberal arts by name. By the end of the fourth century, Capella had named the Greco-Roman subjects constituting the liberal arts. They were grammar, rhetoric, logic, arithmetic, geometry, astronomy, and music. These seven liberal arts became the medieval curriculum. Grammar—not only the study of language but also the study of literature, Rhetoric—the study of expressive oral and written speech, and Logic—the study of reasoning—formed the *trivium* and yielded knowledge of the word. The remaining four liberal arts formed an advanced group, the *quadrivium*. They were arithmetic—the study of number, geometry—the study of dimension, astronomy—the study of motion, and music—the study of proportion, and together yielded knowledge of things.²² The seven liberal arts, even with later additions of knowledge of the word and of things, are clearly speculative arts. They are suitable to speculation not to action. Maritain, from an Aristotelian perspective, explains the difference between speculative and practical arts:

As a rule the thing to be made, or the work to be done, refers to the realm of knowledge for the sake of action, not of knowledge for the sake of knowledge. That is why it is said in a general way that art belongs to the sphere of the practical intellect. Yet there are certain categories of works, and consequently, certain categories of arts which do not belong to this sphere, but to the speculative arts, such

as Logic is for instance. (Cf. *Sum. theol.*, II-II, 47, 2, ad 3.) Such arts perfect the speculative Intellect, not the practical Intellect: but the kind of knowledge involved is still akin to the practical in its *mode*, and it constitutes an *art* only because it implies the *making of a work*—this time a work wholly within the mind, and whose sole object is the achievement of knowledge, a work which consists for instance in shaping an idea or a definition, in setting our concepts in order, in framing a proposition or a reasoning.²³

The three liberal arts that I have named—theoretical, qualitative, and performative—are all practical, and so can be the democratic arts or the arts of social intelligence. Speculative arts taken as liberal arts carry with them “the decadence of civilization. Essentially culture should be for action. . . .”²⁴ Arts truly liberal are arts of utilizing ideas and not arts for binding humanity with inert ideas.²⁵ Theoretical, qualitative, and performative arts must be mastered in concert one with the other, if one is to be free. Only then can one’s societal transactions be reflective, sensitive, and competent. That is to say, only then can one successfully use ideas in a situation to create a better society.

To be liberally or morally educated depends upon the constructive forces of the past out of which the better society is to be created. These constructive forces are intelligence’s fund, since intelligence is “a social asset and is clothed with a function as public as its origin, in the concrete, in social cooperation.”²⁶ The fund of intelligence can be called ‘knowledge.’

Knowledge, as an abstract term, is a name for the

product of competent inquiries. . . . The ‘settlement’ of a particular situation by a particular inquiry is no guarantee that *that* settled conclusion will always remain settled. The attainment of settled beliefs is a progressive matter; there is no belief so settled as not to be exposed to further inquiry. It is the convergent and cumulative effect of continued inquiry that defines knowledge in its general meaning. . . . When knowledge is taken as a general abstract term related to inquiry in the abstract, it means ‘warranted assertibility.’²⁷

As knowledge is the convergent and cumulative effect of continued inquiry, it is emergent and the starting point of further inquiry.

Knowledge is public. To be public is to be presentable. Since signs re-present, it is by being signs that knowledge attains its public character. Moreover, knowledge is not knowledge unless it is descriptive of states of affairs; the states of affairs can be ideal ones. Universals are descriptive of ideal states of affairs insofar as they are possibilities for actuality. Every actual occasion is defined by how these possibilities are actualized for that occasion.²⁸ The universals are abstract, and thus transcend the occasion because they have analogous or different connections with other occasions.²⁹ However, transcendence does not mean universals are disconnected from occasions. Connection is called ‘ingression.’ The universal through ingression produces the definiteness of the occasion.³⁰ Pervasive qualities are descriptive of definiteness, of unique states of affairs. Besides theoretical and qualitative knowledge, there is performative knowledge. Methods are descriptive of human actions. Human actions are essentially intentional and thereby methodic. To be methodic is to be an or-

Q
P
wholeness

ganized way of doing, a doing in which means are ordered to taken ends.

For human beings *qua* human beings, inquiry is omnipresent. The flux of events is a fact and limits possibility, i.e. actual occasions limit ideality. Experience then is problematic, an attempt to transcend limits. In this problem-solving endeavor, theoretical knowledge offers universals for ingression as forms for actual occasions; qualitative knowledge, pervasive qualities as actualities to be actual occasions; and performative knowledge, methods to make actual occasions.

Without knowledge, the knowing proposed in the liberal arts would not be possible. The theoretical art of conceiving depends upon past conceptions; the qualitative art of perceiving, upon past perceptions; and the performative art of doing, upon past doings.

. . . there is such a thing as pushing on, of getting to know the fundamental details and the main exact generalizations, and of acquiring an easy mastery of techniques. There is no getting away from the fact that things have been found out. . . . The untutored art of genius is . . . a vain thing, fondly invented.³¹

Liberal education, therefore, is not only mastery of liberal arts but also mastery of liberal knowledge.

Neither activity is conceivable without the other . . . there can be no courses on arts as such. . . . There must be materials, and the materials are the best works of the best imaginations. But neither have the classics come out of nothing. They have enjoyed their supporting medium, just as they have become a kind of medium in themselves. The supporting medium is the great tradition of the liberal arts. That medium

and what it contains, the bone and marrow together, suggest that a curriculum already exists. It remains only to be rediscovered, and to be put into effect by teachers who know how discipline in language, literature, and science is best made lovable and so desirable, and who have that discipline themselves because they have mastered its medium.³²

To be disciplined in a subject, to have that discipline, is to have mastered its rules and to act accordingly. Guidance toward such mastery must not be dehumanizing, it must be done in a context of freedom. According to Freire in *Pedagogy of the Oppressed*, education based on a banking conception is not in a context of freedom, it "mirror[s] the oppressive society as a whole." The students are prevented from choosing; "the teacher chooses and enforces his choice, and the students comply." Freire's problem-posing conception of education, however, does provide a context of freedom. Both the students and the teachers are cognitive actors. They are involved in inquiry. But a context for discipline is lacking, for teacher and student are critical co-investigators. On the other hand, Buber recognized that freedom is "the fruitful zero." "Freedom in education is the possibility of communion; it cannot be dispensed with and it cannot be made use of in itself; without it nothing succeeds, but neither does anything succeed by means of it. . . ." ³³ Discipline must enter through a disciplined teacher.

What we term education, conscious and willed, means *a selection by man [woman] of the effective world*: it means to give decisive effective power to a selection of the world which is concentrated and manifested in the educator.³⁴

The education of men [or women] by men [or women] means the selection of the effective world by a person and in him [her]. The educator gathers in the constructive forces of the world. . . . The constructive forces are eternally the same: they are the world bound up in community. . . .³⁵

Whitehead held that freedom and discipline were the two essential elements of liberal education. Liberal education should begin and end in freedom with discipline an intermediate stage. This is so, because education, just as any occasion, begins as a burst of creative novelty, continues by making itself of the past from which it arises, and finally completes itself. The unfolding reality is consequently cyclical. Each cycle consists of three phases: ingathering, ordering, and realizing. This rhythm reveals itself in education as stages. The first phase of the educative development of the individual is the Romantic one, a stage of interest. There is no constraining or restraining of the students to get things straight, but rather "plenty of independent browsing and first-hand experiences, involving adventures of thought and action."³⁶ The student clearly engages in inquiry tasks. "It is a process of discovery, a process of becoming used to curious thoughts, of shaping questions, of seeking for answers, of devising new experiences, of noticing what happens as the result of new ventures."³⁷ Education begins in freedom-from. The second stage is that of Precision. Discipline enters as knowledge and is emphasized. Theoretical, qualitative, and performative arting are no longer given free rein. "The stage is dominated by the inescapable fact that there are right ways and wrong ways, and definite truths to be known."³⁸ The third stage is that of Generalization. "He

[she] relapses into the discursive adventures of the romantic stage, with the advantage, that his [her] mind is now a disciplined regiment instead of a rabble."³⁹ Provided the environment in which the mind is working is that of real life experience, education reaches its aim of social intelligence—wise choices for living. Education begins in freedom-from and through knowledge ends in freedom-for. This conception of education as liberal is educology of the free.

FOOTNOTES

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III

Knowledge and Educology

Through knowledge, education evolves from freedom-from to freedom-for. Education which is freedom-for is educology of the free. It remains then to give more sense to knowledge. In so doing, educology emerges.

Although knowledge is one, it is many also.

STRANGER. And here, if you agree, is a point for us to consider.

THEAETETUS. Namely?

STRANGER. The nature of the Different . . . appears to be parcelled out, in the same way as knowledge.

THEAETETUS. How so?

STRANGER. Knowledge also is surely one, but each part of it that commands a certain field is marked off and given a special name proper to itself. Hence language recognizes many arts and many forms of knowledge.¹

Knowledge is one insofar as it is the convergent and

cumulative effect of continued inquiry and so is emergent. Being emergent, it is organic—a whole that is not merely a function of its parts but that determines what those parts will be and how they will be related to one another. Kant accounts for our conception of this whole in terms of an idea of reason.

This idea is the concept provided by reason—of the form of the whole—in so far as the concept determines *a priori* not only the scope of its manifold content, but also the positions which the parts occupy relatively to one another. The scientific concept of reason contains, therefore, the end and the form of that whole which is congruent with this requirement. The unity of the end to which all the parts relate and in the idea of which they all stand in relation to one another, makes it possible for us to determine from our knowledge of the other parts whether any part be missing, and to prevent any arbitrary addition, or in respect of its completeness any indeterminateness that does not conform to the limits which are thus determined *a priori*. The whole is thus an organized unity (*articulatio*), and not an aggregate (*coacervatio*).²

Knowledge is many insofar as it can be divided into disciplines. To define a discipline is, for Kant,

to determine accurately that peculiar feature which no other science has in common with it, and which constitutes its specific characteristic. . . . The characteristic of a science may consist of a simple difference of *object*, or of the *source of knowledge*, or of the *kind of knowledge*, or even perhaps of all three

together. On this characteristic, therefore, depends the idea of a possible science and of its territory.³

Kant, of course, is using 'science' in its wider traditional meaning whose reference is all disciplines that yield knowledge.

Because definition is an affair of reason, tradition or current practice are not necessarily reliable paths for delineating the disciplines constituting knowledge. What has been or what is is not necessarily what is reasonable. Moreover what has been or what is is not necessarily all that is reasonable. Nevertheless, tradition seems always to render the novel suspect.

Listen to an Oxford don, writing in 1849: "I can but fear the worst, a majority of 14 in convocation voted in favour of. . . . Modern History. We did indeed by a large majority reject the details of this novelty, but the principle has been admitted. . . . [W]e have fallen into the weakness of yielding to the spirit of the age."⁴

With respect to the source of knowledge, the source can be either experience or reason. Where it is experience, knowledge is said to be *a posteriori*; and where reason, *a priori*. Physics would be an example of *a posteriori* knowledge, and metaphysics of *a priori* knowledge.

Knowledge as to kind is either analytic or synthetic.

. . . there is in them a distinction according to content, by virtue of which they are either merely *explicative* and add nothing to the content of knowledge, or *ampliative* and enlarge the given knowledge; the former can be called *analytic* judgments, the latter *synthetic* judgments.⁵

Although Kant took mathematics to be synthetic knowledge, its analytic nature has come to be recognized. Both physics and metaphysics are instances of synthetic knowledge.

Because both physics and metaphysics are synthetic in nature, synthetic knowledge obviously can be either *a posteriori* or *a priori*. Analytic knowledge, however, is always *a priori*. "All analytic judgments rest wholly on the principle of contradiction, and it is their nature to be knowledge *a priori*. . . ."

Attending to the object of knowledge allows sorting out physics from biology. Both are synthetic and both are *a posteriori*; but physics treats of beings as material objects and biology as living objects. One may even be more specific with respect to objects. Among material objects are tides and so tidology can be distinguished. Mill refers to tidology in his discussion of sciences which are not exact. "No one doubts that Tidology (as Mr. Whewell proposes to call it) is really a science." Mill, like Kant, is using 'science' for all disciplines that yield knowledge.

On the basis of object of knowledge, I proposed 'educology' for that discipline that yields knowledge of education. Mill proposed 'ethology' for that discipline.

A science is thus formed, to which I propose to give the name of Ethology, or the Science of Character; from $\eta\theta\omicron\varsigma$, a word more nearly corresponding to the term "character" as I here use it, than any other word in the same language. The name is perhaps etymologically applicable to the entire science of our mental and moral nature; but if, as is usual and convenient, we employ the name Psychology for the science of the elementary laws of mind, Ethology will serve for the subordinate science which determines

*ethology: 203. branch based on obs. & description of the behavior of species;

the kind of character produced, in conformity to those general laws, by any set of circumstances, physical and moral. According to this definition, Ethology is the science that corresponds to the art of education; in the widest sense of the term, including the formation of national character as well as individual.⁸

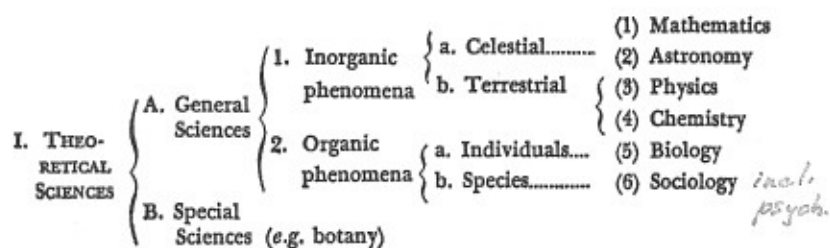
'Pedagogy' is the term in current use. The difficulty with 'ethology' is that its object is too large and with 'pedagogy' that it is too small. Ethology takes as its object all of human being in the world, because all learning or formation of character is included in education. Mill does not limit education to intended and guided learning. In this regard, Dewey agrees with Mill. I limit the object of educology to the teaching-studenting process, and thereby to intended and guided learning. 'Pedagogy' is too narrow, as its object is only education of the young. Yet education need not terminate except with death. Adult education is education. Educology's object is all of education.

Since there are other objects of knowledge besides material objects, living objects, tides, character, and teaching-learning processes whether restricted to the young learner or inclusive of any learner, there are yet other disciplines besides physics, biology, tidology, educology, ethology, and pedagogy. Also it is patent that some disciplines treat of the same kind of object but in a more or less general way. Physics and tidology both treat of material objects, but physics is more general and tidology more specific. Ethology, educology, and pedagogy all treat of human objects, namely human learning, with ethology the most general and pedagogy the most specific.

To order the disciplines according to objects of knowledge so as to exhibit their material relationships, classifica-

1798-1857

tions have been proposed. The schema of Auguste Comte in his *Cours de philosophie positive* which follows orders the general sciences with respect to increasing complexity. Organic phenomena are taken as more complex than inorganic; and among the inorganic, chemistry as the most complex; and among the organic, sociology. Comte also believed that in each of the six sciences a new kind of phenomena appears which cannot be explained in terms of the earlier sciences.



II. PRACTICAL SCIENCES (corresponding to theoretical ones).

SCHEMA 1: Comte's Classification of the Sciences

The classification of the sciences by J. A. Thomson in his *Introduction to Science* is reproduced in Schema 2.

ABSTRACT SCIENCES	CONCRETE SCIENCES						
	GENERAL				SPECIAL OR DERIVATIVE	COMBINED OR SYNTHETIC	APPLIED
METAPHYSICS (Supreme)	V. SOCIOLOGY				Ethnology Study of Institutions	Science of Human History	Politics Civics Economics
	IV. PSYCHOLOGY				Esthetics Linguistics Psycho-Physics		Ethics Education
LOGIC	GENE- OLOGY	MORPH- OLOGY	PHYSI- OLOGY	AETI- OLOGY	Zoology	Anthropology	Eugenics
	III. BIOLOGY				Botany	General History of the Biosphere	Medicine Forestry
STATISTICS	II. PHYSICS				Protistology	General History of the Earth Geology Geography	Navigation Engineering Architecture
	I. CHEMISTRY				Astronomy Geodesy Meteorology	Oceanography	
MATHEMATICS (Fundamental)					Spectroscopy Stereo-Chemistry Mineralogy	General History of the Solar System	Agriculture Metallurgy Mining

mathematics, are analytic. Logic, mathematics, and statistics have no object; their subject matter consists solely of forms of order or relation. Consequently, they have been called 'the formal sciences.'

A better set of categories than 'inorganic' and 'organic' would be 'physical,' 'biological,' and 'hominological.' 'Organic' is used in chemistry to refer to certain kinds of compounds and so is not restricted to living phenomena. Thus, I substituted 'physical' for 'inorganic' and 'biological' for 'organic.' I introduced 'hominological' to characterize the disciplines whose object of knowledge is the human being and so sort them out from the biological disciplines. I used the term 'hominological' rather than other terms that have been used, namely 'behavioral' and 'social.' Both terms were too inclusive. Behavioral science's object could be the behavior of rats as well as of humans. Social science's object could be ant societies as well as human societies. Also 'social' is too exclusive; it could rule out psychological phenomena.

Ordering physics, biology, tidology, educology, ethology, and pedagogy, physics and tidology are placed under physical knowledge, biology under biological knowledge, and educology, ethology, and pedagogy under hominological knowledge. Within the placement under physical knowledge, tidology is placed under physics. Under hominological knowledge, pedagogy is placed under educology and educology under ethology.

Given physical, biological, and hominological as categories of knowledge as to its object, then one discipline cannot be included since its object is any object whatsoever. Metaphysics is that discipline. In Schema 2, Thomson correctly places metaphysics in this most general position. Yet metaphysics should not be placed with logic,

mathematics, and statistics. Metaphysics is synthetic not analytic.

As noted earlier, disciplines that are synthetic in the sense of ampliative can be characterized further as either *a priori* or *a posteriori*. Those that are *a priori* are philosophical in nature, and so are constitutive of philosophy. It would simplify matters if those that are *a posteriori* could be said to be scientific in nature and so constitutive of 'science' in its narrow sense. But some empirical generalizations are praxiological in nature. Praxiology must be sorted out from science.

Science consists of true generalizations and observations of objects. The generalizations describe classes of objects and their interrelations. The observations describe objects as members of classes. Generalizations constitute theoretical knowledge; and observations factual knowledge. The generalizations are value-free in that they do not describe what is effective or worthwhile; they do not describe either instrumental or intrinsic value. They, of course, could describe what is taken to be effective or worthwhile.

Praxiology consists of true generalizations and observations of practice. The generalizations describe classes of actions and their interrelations as means ordered to selected ends. The observations describe actions as members of classes. Generalizations constitute theoretical knowledge; and observations factual knowledge. The generalizations are not value-free but describe what is effective, what is instrumentally valuable, what is good-for. Yet they do not describe what is worthwhile, what is intrinsically valuable, what is good-in-itself. That is the business of philosophy.

Comte's practical sciences and the sciences that Thom-

son lists under "applied" are praxiologies. Praxiology is not merely science applied to bring about states of affairs which are taken as valuable in the sense of having positive affect. This has been the usual conception of technology as applied science. I use 'praxiology' instead of 'technology' to avoid the unwanted notions of hardware and of technique with its connotation of specificity. Rather, praxiology is theoretical knowledge of practices not solely derivable from science.

The delineation of the disciplines constituting knowledge thus far presented is in the context of one way of knowing, the quantitative. Besides knowing objects as instances of classes, objects can be known also as unique entities or as transactions. Consequently, there is also qualitative and performative knowing.

It is not always understood that knowing objects as instances of classes, theoretically by means of generalizations, is quantitative. To many 'quantitative' pertains to numbers. Generalizations involve extensions, ranges relative to classes. The range of a class is the instances having membership in that class. As an example, the generalization:

Post organizers of material facilitate retention of that material

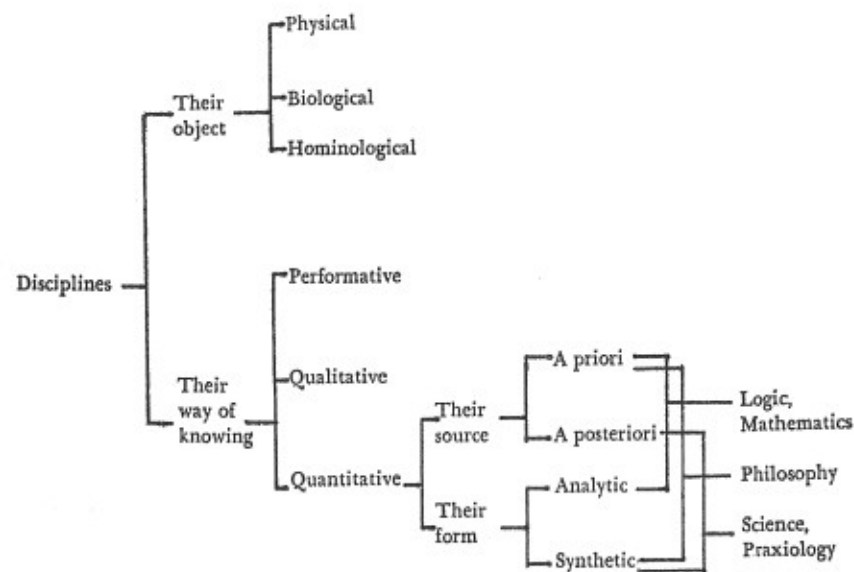
is quantitative, since its translation:

All post organizers of material are facilitators of retention of that material

indicates that within the universe of a given material all the instances having membership in the class of post organizers are placed within the class of facilitators of re-

tention. 'All' is a universal quantifier. Also it should be noted that instances though individual are not unique. To be unique is to be one of a kind, and thereby to make 'kind' meaningless. Therefore, quantitative knowledge is of individuals, but not qualitative. Qualitative knowledge is of individuals in their uniqueness.

Because Kant equated knowing with quantitative knowing, he did not recognize way of knowing along with object, source, and form as a characterizing difference for disciplines constituting knowledge. Schema 3 incorporates this recognition.



SCHEMA 3: Divisions of Knowledge

Relating the distinctions presented in Schema 3 to educology, educology is one of the hominological disciplines. This follows, as noted previously, from educology's object being human learning that is guided and intended. With respect to way of knowing, educology includes qualitative, performative, and quantitative knowledge about education.

1 Qualitative knowledge of education consists of representations of pervasive qualities of educational situations. An example of qualitative knowledge of education is found in *Studs Lonigan*. In this work, James Farrell does more than represent the affect upon him of the education of an Irish-American working-class boy in a South Chicago parochial school during the thirties. He represents his configurational grasp and perspicacious judgment of that unique teaching-studenting state of affairs.

2 Performative knowledge of education consists of representations of actions which are teaching-studenting states of affairs. All human action is not essentially motor. Skiing is, teaching is not. Furthermore, human action is not passive or reactive. Actors take part. There is deliberateness in human action, and so doing is structured, given form and content, in terms of an outcome, a function. Human actions are cognitive. The recording of performative knowing of education by means such as video-tapes has been neglected. Reliance instead had been placed upon *vis-a-vis* transmission. Yet there are not enough masters (knowledgeable performers) to face each apprentice. Also masters are not immortal. Without knowledge, recorded knowing, we begin anew each generation or so. We remain dwarfs rather than becoming giants by being on the shoulders of the past.

Quantitative knowledge of education consists of representations of universals with respect to education. These generalizations are constitutive of theoretical knowledge which is the kind that we are accustomed to take as all knowledge. Such custom has led to the neglect of qualitative and performative knowledge of education.

In addition to this neglect, quantitative knowledge of education is usually limited to science of education. But within quantitative knowledge of education, source and form also permit differentiation of praxiology of education and philosophy of education. To state the matter differently, not only are there generalizations which describe the interrelation of educational factors, but there are also generalizations that describe interrelation in terms of worthwhileness. In praxiological generalizations about education, educational factors are related as means effective relative to ends. In philosophical generalizations about education, the necessary relations of educational factors to rationality and social justice are presented. Philosophical generalizations about education, thus, are generalizations as to what is worthwhile in education's matter, manner, and extent.

To summarize, educology is not simply science of education but is a hominological discipline consisting of qualitative knowledge of education, performative knowledge of education, and quantitative knowledge of education. Quantitative knowledge of education consists of science of education, praxiology of education, and philosophy of education.

Given the object of educology which is education and given the ways of knowing objects, the subject matter of educology can be set forth. Beginning with the ways of knowing which I shall call 'educational analysis,' per-


ceptual analysis, transactional analysis, conceptual analysis, and empirical analysis can be sorted out as sub-categories. Perceptual analysis is the way of qualitative knowing; transactional, performative; and conceptual and empirical, quantitative. Conceptual analysis is the way of philosophical knowing; and empirical, praxiological and scientific. Patently, disciplines sorted out on the basis of their object do not have their own ways of knowing. Of course, a given way of knowing, the empirical way for instance, can exhibit itself somewhat differently depending upon the object known.

Turning to the object of educology, it is a process that combines two fundamental processes, namely, teaching and studenting. Teaching is a process of guiding learning, and studenting is a process of attempting to learn. That teacher and student are two primary units of this educational life is obvious. Two other primary units must be added, since there is a content or matter to be taught and learned and there is a setting in which the teaching and learning occurs. The matter to be taught or learned is called 'the curriculum' and is a selection from culture. To be sure, if education is to be worthwhile, then the culture that is selected should be the arts and fund of intelligence. The setting is the entire context of attempting to bring and to come to learn. As such it includes more than the place; it includes all that accompanies teacher, curriculum, and student. Hence, setting could include persons like administrators, counselors, and so forth.

Setting points to the fact that it is insufficient to study education in terms of its primary units and fundamental processes, for these units are not only organized into the processes but the processes are organized into institutions.

Offices and roles are created, procedures are regulated, and rights and duties are assigned. Structure and culture thereby are prescribed. Some of the educational institutions have as their explicit goal, guiding intended learning. The school would be an instance of such a formal educational institution. Other educational institutions are informal insofar as their explicit goal is not guiding intended learning. The family would be an example.

Given units, processes, and institutions, the content of educology is not yet complete from the standpoint of its object. Institutions become, in a sense, supra-institutionalized. They are organized into systems. Educational systems are part of the subject matter of educology. The subject matter of educology is outlined in Schema 4.

- 
1. Educational Analysis
 - 1.1. Perceptual Analysis
 - 1.2. Transactional Analysis
 - 1.3. Conceptual Analysis
 - 1.4. Empirical Analysis
 2. Primary Units of Educational Life
 - 2.1. Teacher
 - 2.2. Student
 - 2.3. Curriculum
 - 2.4. Setting
 3. Fundamental Educational Processes
 - 3.1. Teaching
 - 3.2. Studenting
 4. Basic Educational Institutions
 - 4.1. Formal, e.g. school
 - 4.2. Informal, e.g. family
 5. Educational Systems

SCHEMA 4: A General Outline of the Subject Matter of Educology

Relating educology to psychology and sociology will complete this explication of the nature of educology. 'Psychologist' is the name for someone who should be concerned with mental processes, while 'sociologist' is the name for someone who should be concerned with social processes. When we call either name, however, persons who are without these concerns or who have severely limited them are the usual respondents.

When one calls 'psychologist,' a behavioral scientist who may or may not deny mental states usually steps forth. This behavioral scientist often is one who is concerned with learning, less often with learning relative to teaching, and rarely with studenting relative to teaching. If this behavioral scientist is within a unit designed as 'Education,' we usually use the name 'educational psychologist.'

Clinical psychologists may step forth, and they traditionally have concerned themselves with mental processes. However, behavior modification is having its impact in clinical circles. Yet clinical psychologists' concerns extend beyond the scientific. They are interested in effectiveness of mental processes, and thus in praxiological matters.

Philosophical psychologists, at least in this country, would step forth with temerity. Yet their epistemological concern to characterize adequate cognitive processes is essential to education. If a philosophical psychologist is within a unit designed 'Education,' we usually use the name 'educational philosopher' rather than 'educational psychologist.' The latter term is reserved for a scientific educational psychologist.

In all three branches of quantitative psychology, one can get in *academia* a response to 'psychologist.' In qualitative and performative psychology, the matter is differ-

ent. This is to be expected, of course, since academicians have neglected qualitative and performative knowledge. The student who enrolls in a psychology course either to come to know the unique self or to come to know how to perform mentally is most often disappointed. The student is presented scientific knowledge. Literature courses and adjunct services might have fulfilled their objectives.

Where then are we to look for concern with qualitative and performative psychology? The search should be within the arts. Some novelists record qualitative psychological knowing. In the voluminous manuscript, *Ulysses*, that James Joyce brought to Paris in 1920, we find a description of Leopold Bloom's mental processes in all their uniqueness. Some practicing clinicians have recorded performative psychological knowledge. Self-psychoanalysis has resulted.

A similar narrative of response to the name 'sociologist' could be given. 'Sociologist' is taken to mean scientific sociologist. In sociology, little attention is paid to praxiological and philosophical dimensions and hardly none at all to qualitative and performative ones. To increase the difficulty with respect to comprehensiveness, not all social processes are taken as the domain of the sociologists. Economists and political scientists claim some social processes as their objects of study. Moreover, small group processes often are claimed by social psychologists.

Given the above short-sightedness, it is patent that psychology and sociology are not being done comprehensively under what is now called 'psychology' and 'sociology.' Each discipline that has an object of knowledge should encompass the qualitative and performative as well as the quantitative, and within the quantitative the

praxiological and philosophical as well as the scientific.

Clearly educology falls under sociology and under psychology taken as being done comprehensively. Educology is a special discipline; psychology and sociology are general disciplines. 'Special' is used here in the sense of less general, just as it is used in Comte's and Thomson's classifications. It follows then that Thomson erroneously placed educology (Education) under "Applied."

It should be noted that Thomson uses 'education' for the discipline whose object is education. Ambiguity thus is introduced. 'Education' means not only the object of knowledge but the knowledge as well. By using 'educology' for knowledge about education, the use of 'education' in these two senses can be eliminated; and thereby ambiguity reduced.

Educology appears to be directed primarily toward the business of teaching, and hence not liberal but professional education. But educology is liberal, for it is a necessary first ingredient in cultivation of social intelligence of human beings for their freedom.

This significance of educology for liberal education is clear in the following words of Colgate students.

A failure to understand and with insight the process by which an individual is taught, combined with the resulting confusion as to the end to which one's knowledge, if acquired, be applied, reduces the teaching/studenting process to either the pursuit of particular facts or to the mere socialization of the human being into an established social context. This cannot be liberal.⁹

I believe . . . that I am not being liberally educated for two basic reasons: first. I didn't know, at the

beginning of my college career, how to be liberally educated; second, the university does not always encourage liberal study, partly because of the increasing emphasis on exams rather than learning to cultivate the intellect (and partly on the fact that many professors have not themselves been liberally educated and don't know what guiding the studenting process entails); which is due to a universal (nearly) trend at professional and graduate schools of demanding quality grade performance for admission.

These problems can be, and in some cases are being, remedied. Herein lies the potential at Colgate. While the core programs are good . . . a required core could be developed . . . teaching the purpose and methods of liberal education.¹⁰

What these students are recognizing is that one cannot take part in the process of being liberally educated unless one understands what that process of education is. To be a student is to be active not reactive. One must know what to do to be liberally educated. Coleridge in his philosophical writings about education likewise recognized that knowledge could not appear as power unless "in the very act of receiving knowledge, the best principles and most useful qualities of the moral character are awakened, developed, and formed into habits."¹¹ And that this formation of character depended upon self-awareness of what one's role as a student ought to be. As quoted in Watson's *Coleridge at Highgate*, Coleridge wrote in 1827 to the nineteen-year-old James Gillman:

Believe me, it is no musty old saw but a maxim of life . . . that He alone is *free* and entitled to the name gentleman, who knows himself and walks in the light

of his own consciousness. But for this reason nothing can be rightly taken in, as a part of liberal education that is not a means of acquainting the learner with the nature and laws of his own mind. . . . By knowing what it ought to be, it generally becomes what it ought to be!¹²

This individual perspective of Coleridge must be supplemented by the social. Formation of character depends too upon awareness of others as they affect that formation. Studenting and teaching are linked processes which are institutionalized. One must know educology in all its dimensions to be liberally educated. Educology for is necessary to educology of the free.

FOOTNOTES

1. Plato, *Sophist*. Translated by F. M. Cornford, London, 1935, 257c.
2. Kant, Immanuel, *Critique of Pure Reason*. Translated by N. K. Smith. London, 1933, A833-B861.
3. Kant, Immanuel, *Prolegomena to Any Future Metaphysics*. Translated by Peter G. Lucas. Manchester University Press, 1953, Paragraph 1.
4. Ashby, Eric, "Reconciliation of Tradition and Modernity in Universities." In *On the Meaning of the University*, edited by Sterling M. McMurrin. University of Utah Press, 1976, p. 18.
5. Kant, *Prolegomena to Any Future Metaphysics*, Paragraph 2.
6. Ibid.
7. Mill, John Stuart, *A System of Logic*. New York, 1846, Book VI, Chapter III, Paragraph 1.
8. Ibid., Book IV, Chapter V, Paragraph 4.
9. Lanc, David, "The Potential for a Liberal Education within the Contemporary University," Colgate University, 1979, p. 11.
10. Palomaki, John M. "Am I Being Liberally Educated?" Colgate University, 1979, pp. 4, 5.
11. Coleridge, Samuel Taylor, *The Friend*. Second Edition, London, 1818, Vol. II, Essay 3, 68.
12. Synder, Alice D., *Coleridge on Logic and Learning*. Yale University Press, 1929, pp. 46-47.

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