



## Knowledge in Schooling

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### The Problem

The recent debate about the “forms of knowledge” is merely the current version of a controversy that has existed most of this century and may be inherent in the attempt to offer universal education in public schools. The debate is whether the university disciplines are the best sources of knowledge for the school curriculum. This paper is a contribution to that debate, although it will not join issue in the terms in which it has been discussed because its participants seem to commit a category mistake. This is intimated in the recent contribution by Mackenzie (1985), who ended his paper with a number of illuminating remarks, two of which are worthy of present attention. One is made by direct quotation of the main protagonist of the “forms of knowledge” thesis, Hirst (1974), who said that from his epistemology, it does not “follow that a curriculum must or ought to be divided into subjects that mirror distinctions between the forms of knowledge” (p. 140). This implies that the university disciplines are the proper sources of knowledge for the school curriculum but that their epistemic characteristics are not the appropriate—or exclusive—criteria for the selection and organization of knowledge in the curriculum. This makes the role of his epistemological distinctions in the development of educational theory unclear and suggests he may have made a category mistake by formulating them. The second point from Mackenzie’s (1985) conclusion that is worthy of attention is that not all the knowledge taught in the schools comes from the university disciplines. Their epistemic characteristics are not appropriate “to learning the execution of the backhand volley, the operation of a lathe, or the skills of the keyboard” (p. 207). This is a telling point only if one believes that tennis (or sports in general), metal and wood-working (or the crafts and trades in general), and piano (or the arts in general) should be in the school curriculum along with, or instead of, the knowledge from the academic disciplines. It seems that one should accept that the arts, crafts, trades, and sports also belong in the school curriculum, but Mackenzie does not tell us why. Nor will normal epistemology or

philosophy of science prove illuminating if they are consulted to find out why the kind of knowledge contained in the arts, crafts, trades, and sports should warrant their inclusion in the school curriculum.

The distinction between *knowing how* and *knowing that* might be trotted out were one inclined to ape a certain style of educational theory in vogue 20 years ago. But this would still commit the category mistake and perhaps what Jane Roland Martin (1981) called the “epistemological fallacy” if it argues “from a theory of knowledge to conclusions about the full range of what ought or ought not be taught or studied” (p. 47). It may be more appropriate to go the other way, from a conviction that the arts, crafts, trades, and sports are based on some kind of knowledge, and that it is incumbent on educational theory to ascertain the nature of their kind or kinds of knowledge and its role in the educative development of young people. Perhaps the approach should not be unlike that stated by Dewey (1961b) in *Problems of Men*:

The legitimate subject matter of a *theory* of knowledge consists of *facts* that are known at a given time, with, of course, the proviso that the procedures by which this body of knowledge has been built up are an integral part of it. This view of the grounds of a competent theory of knowledge stands in open opposition to that which underlies the *epistemological* theory: the postulate, namely, that no subject matter is entitled to be called knowledge until it has been shown to satisfy conditions that are laid down prior to any case of actual knowledge and independently of any conclusion reached in the course of the inquiries by which knowledge in the concrete is arrived at. (p. 294, emphasis his)

Without digressing to prove it, it can be claimed that the “forms of knowledge” debate has been carried on within the framework of what Dewey called “epistemological theory” in this statement, that is, within the framework of prescriptive, programmatic, and a priori conceptions of what knowledge ought to be like. It does not start out with the “facts that are known at a given time” in order to theorize about the conditions under which this body of established knowledge has been discovered. It is overdistanced from the facts known by the various and sundry university disciplines, all of which are ordinarily thought to be branches of knowledge. It would be an error, it seems, to revive Dewey’s own theory of knowledge, but the point is that to come to grips with what is at issue in the “forms of knowledge” debate, one should take some advice from Husserl and put the epistemological theories into brackets in an effort to return to the things themselves. Mackenzie

did this briefly by closing his paper with the references to learning to return a backhand volley, run a lathe, and make music with a keyboard.

### **Societal Sources of Knowledge**

On the way to the things themselves, however, it would be useful to refer to the first chapter of *Democracy and Education* (1961a, p. 8), where Dewey suggested that education is tantamount to what sociologists and anthropologists call "socialization" and "enculturation" respectively. It is the process whereby the young learn to engage in the activities of the adult members of their society. Deliberate or formal education is necessary only when the activities of adults become too complex to be learned informally, which is when the culture becomes so complex it is "stored in symbols" as it were. The symbol systems virtually require formal education to enable the young to gain access to the culture and thereby learn how to engage in the activities of the adults in their society.

If one accepts that the aim of schooling is to enable the young to participate in the activities of adult society, then one is no longer primarily interested in establishing the content of the so-called educated person. One is concerned instead with the knowledge that is used in society in those activities in which the young are enjoined to participate. One is concerned with ascertaining the knowledge that will be generally useful to all adults, that is, with the content of common, general education. One would want to begin with what is known by the qualified experts in the various activities of adult society. The knowledge and skills that belong in the school curriculum become those of the adult society that are needed to maintain the existence of the adult activities that are considered valuable and/or necessary to maintain the specific society in existence and that are unlikely to be acquired without institutionalized processes of deliberate learning and teaching.

The knowledge stored in written symbols that requires formal education to be transmitted and acquired, however, has not merely become complex. It has become epistemically refined by the adult activities within which it has its natural being. Perhaps only those adult activities that have accumulated techniques and methods for refining their knowledge and skills have also accumulated the symbolic culture that requires formal instruction and study for its transmission and acquisition. Formal education does not transmit the culture, but the refined culture, the epistemically refined culture. The knowledge and skills available in society that are eligible for inclusion in the

school curriculum are therefore those of the arts, crafts, trades, sports, professions, and university disciplines that are important to the society. The acronym ACTS will be used hereafter to refer to the arts, crafts, trades, and sports, and the word *disciplines* will refer to all the sciences, fields of study, and professional programs that are housed in university departments of learning.

A balanced concern for the knowledge and skills of the ACTS and disciplines, that is, for both practical and theoretical knowledge, seems educationally important. Not only do standard epistemologies betray an ideological preference for one or the other, but so do political parties. The necessary effort to be descriptive or “objective” makes it unseemly to express a preference for either practical or theoretical knowledge, at least in a premature or preconceived way. Such a preference is not intended in the observation that societies have schools for the deliberate learning and teaching of the knowledge and skills needed in the adult activities important to society that have become too complex to acquire and transmit informally. This means only that the only knowledge and skills available in society that are eligible for inclusion in the school curriculum because of their epistemic characteristics are those of the ACTS and disciplines.

### **Communities of Critical Experts**

The reason for this is that each of the ACTS and disciplines comprises a community of critical experts who confirm the validity and truth of the knowledge and skills within their jurisdiction. These experts employ standards of excellence and canons of inquiry to communicate knowledge and skills to other experts within the domain in an attempt to have them accepted by the other experts. Their knowledge is therefore objective in the sense of being intersubjectively valid, and it is true in the sense of disclosing something about things in the world. The standards of excellence and canons of inquiry appear to be partly unique to the particular ACTS or discipline because they are adapted to the aim and features of the ACTS and to the range of things investigated by the discipline. If the criteria of excellence and the canons of inquiry are domain-specific, as they seem to be, then there is no one method that can be called the method of knowing or the scientific method. This makes no difference to the educational problem, however, beyond making it necessary to conclude that each of the ACTS and disciplines has knowledge and skills that are eligible for inclusion in the curriculum because each possesses its own body of qualified practitioners or qualified investigators to ascertain

the truth of the knowledge and value of the skills within it. It means, simply, that the final authority regarding the validity of curricular content is the community of experts or qualified investigators within a particular ACTS or discipline.

It was the 19th-century American pragmatist Charles Sanders Peirce (1958) who first called attention to the importance of the community of qualified investigators in the discovery of knowledge.<sup>1</sup> Peirce assumed, however, that there was only one community of qualified investigators, that of the hard sciences. This resulted from taking his own field, physics, as the exemplar of the best knowledge and then claiming that its experimental methods of inquiry were the only proper methods for all disciplines, and even for the ACTS, as if physics were somehow more scientific than other disciplines. It may be more exact and more rigorous than others, but it is nonsense to claim that any one of the special sciences or disciplines is more scientific than others. It is probably true that all the knowledge of the social sciences and humanities has to be compatible with the knowledge of the natural sciences, but this does not mean that the methods of inquiry used in the discovery of that knowledge are the proper methods of inquiry in the social sciences, humanities, or the ACTS. This issue is resolved, however, if, instead of thinking of a community of investigators as Peirce did, one pluralizes the notion and thinks of a community of investigators in each of the ACTS and disciplines.

If, in the discovery of knowledge and truth, the methods and canons of inquiry should be the most appropriate ones for the investigation of the things within the discipline, then only the experts within a domain are sufficiently knowledgeable about the things within the domain, and about their characteristics, to be able to make a fair judgment about what these methods are and should be. It follows that no one is qualified to claim that the methods and canons of inquiry are not domain-specific. This is a negative proof of the claim that methods of research ought to be domain-specific in order to be appropriate to the characteristics of the phenomena within a domain.

It is therefore not clear how anyone can become qualified to formulate a general theory of knowledge or science that purports to apply to all the ACTS and disciplines. On the other hand, it is clear that any such attempt should be general, with blanks in it to allow for the details to be filled in by the experts within each of the ACTS and disciplines.

## Epistemic Characteristics

With this proviso, it may be possible to indicate that each of the ACTS and disciplines has three characteristics that allow it to accumulate knowledge and skills. First is a theoretical framework comprising a specialized vocabulary, set of concepts, and conceptual schemata that allow the practitioners and qualified experts to communicate with each other about the things in their domain and to accept and reject each other's claims to knowledge. Some of the difficulty in the "forms of knowledge" debate can be avoided by observing that the logic appropriate to this conceptual consciousness of the things in the domain is also domain-specific.

Second is a means for making perceptual contact with the things in the world, such as observation, experimentation, practice, personal experience, and so forth. The means for achieving a perceptual consciousness of the things in the domain are also domain-specific. Regardless of its mode, perceptual awareness furnishes evidence for conceptualized theorizing, just as conceptual awareness furnishes evidence for perceptual articulation and discrimination.

The third element comprises the techniques, methods, standards of excellence, and canons of inquiry that ensure that there is a reciprocating influence between the conceptual and perceptual consciousnesses of the thing to enable them to enrich and correct each other in the general direction of truth-making.

In other words, the knowledge and skills in the ACTS and disciplines comprise conceptual and perceptual awareness of something in the world. They become epistemically refined by the domain-specific canons and methods of inquiry and action that allow for communication between experts on the one hand, and for reciprocity between conceptual and perceptual awarenesses on the other.

The knowledge and skills of the ACTS are less conceptual and more perceptual and bodily than those of the disciplines. They are, after all, practical activities engaged in to create some object or to perform some action, not to acquire knowledge or skill. They are guided largely by practical knowledge, although they are not devoid of theoretical knowledge in modern society.

The knowledge of the disciplines is more theoretical, conceptual, and cerebral because they are indeed engaged in to maintain, transmit, and discover knowledge and skills. Some disciplines, in turn, are more conceptual, while others are more

perceptual. It depends on the perceptual availability of the evidence about the things in the domain.

To say that the methods and canons of inquiry are domain-specific, then, means that it requires expertise within a domain to ascertain how theoretical and conceptual the knowledge in it should be, how practical and perceptual it should be, and how these two should be interrelated through some methodology to ensure that findings are intersubjectively valid and true.

Unless the knowledge and skills are epistemically refined by standards of excellence and canons and methods of inquiry, however, they do not require the institutionalization of learning for their transmission and acquisition. They can be learned informally. It follows that the only knowledge and skills that belong in the school curriculum are those of already constituted ACTS and disciplines. It is not obligatory for them to be in the curriculum. Nor is it obligatory for their knowledge to be organized into school subjects that resemble the ACTS and disciplines. This may be the best pattern, for all I know, but the point is more general. It is that the ACTS and disciplines are the only sources of knowledge and skills that are good enough to be worthy of inclusion in the curriculum. There are no other sources of warranted knowledge in society. They are not to be included in the curriculum because of their epistemic characteristics, moreover, but because they are needed to engage in the activities of adults in one's own society.

### **Common, General Education**

To educate the young to engage in adult activities in an advanced industrial society requires that the specialized knowledge needed for gainful employment be based on an earlier common, general education designed to help the young explore things in the world they have to know about to live a contextualized, meaningful life as an adult. The curriculum should facilitate their exploration of the things in the world that occur in their play activities by supplying conceptual schemes drawn from the ACTS and disciplines that enable them to become aware of those things in a more disciplined manner than would occur in ordinary experience. When educational events arise naturally out of the explorations of the things in the world, they enable the conceptual patterns of the curriculum to mesh into the things in the perceptual world of students. For example, the young should explore the things in the natural world and in the social world, and for each sub-world they should explore, there is a corresponding ACTS or discipline from which concepts and schemata can be drawn to

enable the exploration of the things in that region of the world to be more disciplined and truthful than it would otherwise be.

Common, general education should include the study of the most important things in the major regions of the world. It should therefore include the study of things in the written world, the quantified world, the play world, the fabricated world, the natural world, the societal world, and the lived world. Each of these seven categories involves a distinct mode of access to the things located in the respective region of the world. They might nurture different intellectual powers as the conceptual schemata or skills come to structure one's conscious awareness of the things within the specific region of the world, but the goal of common, general education is not to develop these powers. It does not depend on whether there are domain-specific modes of knowing, for the purpose of common, general education is to give the young equal access to the world.

Most of the modern world is not accessible except to literate, numerate people. It is necessary to gain access to the world through literacy and numeracy to engage in adult activities in the modern world. For example, one has to read the newspaper with critical understanding to be able to interpret, evaluate, and participate intelligently in the ongoing life of society. Similarly, general education should ensure that everyone learns at least one art, craft, or trade exclusive of one's vocation, and at least one sport or dance, to assist in the exploration of things in the fabricated world and play world, and more importantly to gain access to the world through manual, bodily modes of knowing. It seems especially important if one is not going to practice an art, craft, or trade as one's vocation to learn one to a degree necessary to practice it as a life-long hobby or artistic skill because through it one gains a solid grasp on the world through one's hands that enables one to know the world and feel secure within it in an irreplaceable way. It also lets one value the contribution to the society made by people who work with their hands. Similarly, a reasonable level of achievement in sport or dance enables one to come to know the world through a full, bodily immersion in it that yields a holistic, bodily grasp on the world and that gives one confidence in one's bodily undertakings in the world. These manual and bodily learnings enlarge one's lived space, thus increasing its mobility and one's willingness to undertake new practical activities with positive feelings regarding the probability of success. There is little doubt that making things and playing have great human, existential significance.

The importance of these first four categories is characteristically underestimated by intellectualistic theories of knowledge and education. The skills involved are often considered habits or unconscious behaviors. To the contrary, one is not only perceptually aware of what one is doing within them, but one can be more wide awake than within theoretical endeavors. It would be easy to show, furthermore, that all knowledge has its origins in bodily handlings of things and is dependent on bodily involvement with the world. Conceptual, intellectual consciousness is thoroughly embodied and dependent on things in the world for its intelligible content.

On the other hand, so too should one avoid a practical ideology of knowledge out of truthful fairness to conceptualized, theoretical modes of knowing. It should not be forgotten that reading, mathematics, and the ACTS have a place in schools only because they have theoretical aspects customarily stored in symbols that make them difficult to learn informally. The intellectual curriculum, however, comprises the last three categories: things in nature, society, and the lived world, to be disclosed with concepts drawn from the natural sciences, social sciences, and humanities, respectively.

The primary goal of common, general education within the intellectual curriculum is also to give equal access to the things of the world, but here it is equal cognitive access. As the child or youth explores the physical world, the animal world, the plant world, and so on, he or she becomes aware of physical things, living things, growing things, and celestial things. Because the natural world provides all the resources that sustain human life, much adult activity is dependent on the epistemically refined knowledge of the things in nature that the child or nonschooled adult knows only as commonsense objects. One's access to things in the natural world is greatly increased and disciplined by the methodology and conceptual schemata of the natural sciences. These enable one to gain a generally truthful picture of reality, that is, an image of the solar system as several billion years old, of the planets revolving around the sun, the awareness that the constellations of astrology do not exist (and that UFOs do not either), the cognizance that living things and nonliving things exist in dynamic interplay because the former evolved through adaptation to the latter. They make one aware that nutrition is a biochemical process that can be guided by knowledge to promote health and well-being, that medical science based on the natural sciences is different from sorcery and shamanism, and so on.

Similarly, the child or youth becomes aware of the things in the social world through untutored experience, but the moral agency of adulthood in a liberal democracy requires one to know about the economic, political, legal, and social institutions of one's society. Part of general education should therefore enable the young to gain a disciplined, conceptual access to the things in the economic world, political world, civil world, and social world, such as the market, unemployment as a general social phenomenon, inflation, representative government, political parties, civil and criminal law, the court system, and so on. Only the disciplined study of major phenomena or institutions in one's own society can enable one to integrate oneself into society and function fully as a moral agent and participating citizen.

Finally, one gains a disciplined access to the lived world or human world through poetry, literature, drama, music, history, ethics, religion, and philosophy. Through the conceptualizations of the humanities one becomes aware of the things in the lived world in sensitively articulated ways, that is, of love, suffering, jealousy, conquest, adventure, mystery, cultural and scientific inventions, catastrophes, revolutions, the struggle between good and evil, human hopes and aspirations, and human tragedy. This understanding helps bring order and significance to one's own feelings, fears, hopes, and aspirations. It brings order and significance to one's own being.

### **Knowing About Things**

Although each of the natural and social sciences and humanities has its own mode of access to the things in its region of the world, all of these modes of knowing cannot be included in a finite program of general education. Acquiring the method of inquiry is less important within the intellectual curriculum, moreover, because what is important to common, general education is that it supplies knowledge about the world. It is neither "knowing that" nor "knowing how" but "knowing about" things that is crucial. To avoid reifying knowledge, this knowledge about the world should be organized so that the things in the natural, societal, and human worlds that the young become aware of in commonsense experience are studied in disciplined ways in schools to establish a progressive enlargement and deepening of their lived world, of their perceptual reality. What is important in common, general education is that students become more deeply aware of more things in the world in a more truthful manner that progressively increases their conscious contact with the world. It is not to prepare people for a vocation or tertiary schooling.

Nor is it to acquire knowledge for its own sake. The purpose of common, general education is to give people equal access to the things in the world by employing the conceptual patterns drawn from the ACTS and disciplines to make more and better sense out of them than would otherwise occur.

This view of the role of knowledge in education differs sharply from two views that strongly emphasize the development of patterns of thinking similar to those of the experts in the disciplines. The advocates of the "forms of knowledge" and "liberal education" commit the intellectualistic fallacy, for they overlook the importance of the practical knowledge of the ACTS in adult social life and favor academically able students unduly because the emphasis on thinking within the conceptual structures of the disciplines makes instruction so rigorous that it leaves nothing for less able students who find the disciplines taught this way uninteresting and irrelevant because the concepts do not relate to things in the perceptual world. Dewey's view, on the other hand, commits the practicalistic, anti-intellectual fallacy because the abstraction of problem-solving from the experimental sciences overlooks the importance of the theoretical aspects of the natural sciences and the knowledge already accumulated in the disciplines, particularly the way in which settled knowledge is used in life to understand, interpret, and make sense out of the things one perceives that are beyond the range of problem-solving techniques. The "forms of knowledge" view is incompatible with common education, and Deweyan progressivism is incompatible with general education.

Both of these views formulate a theory of knowledge and how it is allegedly discovered by experts on the frontiers, then they apply this fictional method of discovery to classroom practice. It would seem that they are overcommitted to views of traditional and progressive pedagogy, however, and that they let these partisan preferences corrupt their views of the intellectual content of the curriculum.

Instead of considering the ways in which new knowledge is allegedly discovered and applying this to the classroom as if mature researchers have not discovered and accumulated a body of knowledge with their highly touted method, it is less ideological to consider the way in which knowledge and skills are actually used in society by people who are not experts in the ACTS and disciplines, but who have acquired some of their knowledge as part of their general education. It is mostly accepted on authority and used to make sense out of things. Most people do not use the knowledge acquired in schools to solve

problems in their adult lives, nor to think like the experts in the disciplines. They do not use it by recall of isolated facts either, but to interpret and understand things, to make sense out of the world.

This is not to deny that classrooms should be conducted under wholesome epistemic conditions, just as they should be conducted under wholesome moral and emotional conditions. The necessary wholesome epistemic conditions, however, are that the concepts and conceptual schemes of the ACTS and disciplines are learned in ways that always connect them with things in the perceptual world. The methods and techniques that the experts in the ACTS and disciplines use to ensure that conceptual consciousness and perceptual consciousness of things enrich and correct each other are not so important pedagogically as the interaction between the perceptual and conceptual awareness of things one is learning about. If the pedagogy of the classroom enables students to make sense of perceived things with the help of the concepts and schemata drawn from the disciplines, they are engaging in the important aspects of thinking involved in gaining knowledge about the world. To pursue this further would require a domain-specific phenomenological description of how, within an ACTS or discipline, the basic concepts are related to the most important phenomena within the domain. One wants to know about the processes of consciousness that enable the experts to be consciously aware of things in their domain, for the teacher's task is to enable students to become aware of them in the same way.

This requires domain-specific phenomenological research, which itself requires expertise and teaching experience within the respective ACTS or discipline. What can be said in general is that the perceptual and conceptual consciousness of the things should coincide in their disciplined study. Otherwise, the conceptual learnings will become learned verbally, without understanding or insight, because of the alienation from the things in the world. The symbol system within which they are expressed will become reified and learned as a free-floating set of words, truthlessly.

It has already been said that the knowledge in some domains is more conceptual, in others, more perceptual. The valid epistemic relation between perceptual and conceptual awareness of something in pedagogy is probably also lesson-specific. Within any subject, one lesson might be more perceptual, another, more conceptual. It depends on the specific item of

knowledge, the students' experiential background, and the way in which the specific teacher is able to open the thing up.

### **Comparison of Practical and Theoretical Knowledge**

It will set things into perspective to contrast the practical knowledge of the ACTS with the theoretical knowledge of an art, craft, or trade that a craftsman may lack. For example, the automechanic ordinarily lacks the knowledge of the automotive engineer. The engineer can do everything the mechanic can do, but the mechanic cannot do all that the engineer can do because he or she lacks the conceptual awareness of the physics, calculus, and other university disciplines the engineer uses to design a new car. One prefers to have the experienced mechanic repair one's car, especially if it requires trouble-shooting to locate the problem, for he or she has built up a rich, perceptual, and bodily knowledge of how to locate and repair such problems, which the engineer lacks. Regardless of how well the mechanic can conceptualize things related to this work, however, the theoretical knowledge necessary to design a new car is lacking. His or her technical knowledge is superior to that of the engineer, but the engineer's theoretical knowledge is technologically superior to the mechanic's knowledge. The question, then, is whether the engineer's knowledge is epistemically superior. If it is more valuable to society, is it because of its epistemic qualities or its technological uses? Or is it more valuable because it requires more time and effort to acquire? Would anyone undertake the schooling necessary if working as an automechanic paid as well as engineering?

This contrast occurs between the electrician and electrical engineer, between the contractor and civil engineer, between the practical nurse and the registered nurse, the stenographer and executive secretary, the bookkeeper and certified public accountant, the draftsman and architect, and so on. In each case the knowledge of the former is superior in regard to the refinement of perceptual, bodily awareness of things involved in the activity. In each case, too, the knowledge of the latter is superior in respect to depth and breadth of conceptual understanding, which takes a longer period of schooling to develop. In many cases, finally, the latter could teach the former how to do the former's job, but this cannot be reversed.

There are, furthermore, varying degrees of excellence in the ACTS as well as in the professions and disciplines. There are world-class hairdressers, cabinetmakers, chefs, and so on, even world-class automechanics (who work for race car drivers). Al-

though such excellence is recognized by its product or performance, its existence depends on high-grade intelligence and superior knowledge at the perceptual and bodily levels. This fact should prevent hasty claims that the theoretical knowledge of the disciplines is inherently more valuable than the practical knowledge of the ACTS.

On the other hand, it does seem that the theoretical knowledge of the professions and disciplines is epistemically superior because it is more conceptually complex, more abstract, more testable, more broadly applicable, and more communicable among more highly qualified groups of investigators who specialize in the discovery and refinement of knowledge. These epistemic qualities of theoretical knowledge do not, however, make the people who can acquire it better people. That is a question of moral character.

Another important point is that as one of the arts, crafts, or trades becomes intellectually sophisticated, it becomes absorbed into the instructional programs of tertiary schools, as nursing education is presently moving out of apprenticeship training in the teaching hospitals and into the Colleges of Advanced Education in Australia. This movement toward the progressive theoretizing of larger areas of life seems inevitable and irreversible. If it is, and if it is due to the epistemic qualities of the knowledge of the university disciplines, then theoretical knowledge is better as knowledge than practical knowledge. This should come as no surprise because the knowledge of the disciplines is merely those elements of practical knowledge that have become so epistemically refined and important that they have become stored in symbols and taught and learned deliberately in schools. It would come as no surprise to one who bears in mind that the knowledge of the disciplines is already the content of the curriculum in tertiary schools, and if the concern for the knowledge in schooling does not separate primary and secondary schools from tertiary schools. When one keeps in mind an image of all three levels of schooling as a unitary system, it becomes obvious that the essential characteristic of schools is the giving and receiving of instruction in theoretical knowledge.

On the other hand, the whole point of acquiring theoretical knowledge in schools is to enable one to enter into society and convert this into practical knowledge by engaging in the adult activities of one's society. The theoretics of formal education can be seen as an advanced form of socialization from a sociological point of view, particularly when the epistemic basis for the content of the curriculum is expressed in terms of the

communities of critical experts in the arts, crafts, trades, sports, professions, and university disciplines and fields of study.

### Conclusion

One might argue that this appeal to the experts in the ACTS and disciplines is merely a resort to common sense. If so, it is a return to common sense in the Husserlian spirit of a return to the things themselves. If one wants to begin a theory of knowledge that is not decontextualized by abstracting it from historical, societal reality, one ought to start not merely with facts, as Dewey recommended, but with people who know things, that is, with experts, particularly with those experts who have formed themselves into guilds for the discovery, preservation, and diffusion of the practical or theoretical knowledge in a specific activity or domain. Within these communities of practitioners or investigators, there seem to be these elements of knowledge: perceptual and conceptual awareness of the activities in the practice, or of the objects in the domain, and some techniques, methods, standards of excellence, and canons of inquiry that compel mutually enriching interaction between perception and conceptualization. Epistemologists and philosophers of science merely reify certain aspects of these three elements and decontextualize them to carry on arguments about which elements are most important, as in the “forms of knowledge” debate. What philosophy is, and what philosophers do, and can do, and should do, are not at issue, except to say that, regardless of the epistemic characteristics reified, it involves a reductionism that is inappropriate for educative processes occurring in the unreduced, lived world of schooling, unless the reifications of contrasting theories are combined so as to include all of the epistemic characteristics necessary to become aware of a specific activity or thing in the world.<sup>2</sup> The appeal to the knowledge of the experts, in the ACTS as well as the disciplines, is therefore an appeal to the knowledge and skills in their unreduced, holistic state as found in the activities of adults in society. If this is a return to common sense, then perhaps one should make the most of it.

### Notes

1. Peirce (1958) said, for example, “Modern science accepts no proposition as self-evident but rests on the consensus of the community of scientific investigators as to what premises one may adopt for the sake of inquiry” (p. 17). This statement needs to be supported to apply it to the point in the text. He also said, “The very origin of the conception of reality shows that this conception essentially involves the notion of a COMMUNITY,

without definite limits, and capable of a definite increase of knowledge" (p. 69, emphasis his). This view of reality in connection with science depends on "the result of investigation carried sufficiently far," and is explicated in these terms: "The opinion which is fated to be ultimately agreed to by all who investigate is what we mean by the truth, and the object represented in this opinion is the real" (p. 133). Knight (1965) explains Peirce's point: "The establishment of scientific fact depends not merely on one but on a community of competent observers who check each other's conclusions and make individual contributions to the whole enterprise for future generations" (p. 31).

2. This point is indebted to the "multiple perspectives" concept applied to the consideration of knowledge in pedagogy by Greene (1973, p. 168).

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