*Abstract*

Recent work has been emerging which is examining the notions of self-understanding and reflection insofar as these phenomena emerge within the context of the practice of teaching. This paper makes the case that, because of the powerful influence of Piagetian theory on the practice of teaching, it is necessary to re-examine how these phenomena are formulated in that theory. This necessity is especially urgent, since Piaget's theory, as a form of scientific discourse, leads to a formulation of "practical understanding" which is decidedly negative.

*Résumé*

Certains travaux récents examinent comment les notions de compréhension de soi et d'objectivation se manifestent dans le contexte de la pratique de l'enseignement. L'auteur argumente ici qu'en raison de l'influence puissante de la théorie piagétienne sur la pratique de l'enseignement, il est nécessaire de réexaminer comment ces notions y sont formulées. Il est d'autant plus urgent de ce faire que la théorie de Piaget, comme forme de discours scientifique, amène une formulation de la "compréhension pratique" qui est décidément négative.

David W. Jardine*

# REFLECTION AND SELF-UNDERSTANDING IN PIAGETIAN THEORY: A PHENOMENOLOGICAL CRITIQUE[1]

## *Introduction*

There is an ever-increasing body of work emerging which focuses on the character and value of reflection and self-understanding as a feature of educational practice. Schon's (1983) work on the nature of reflection in a teacher's field experience, as well as several recent symposia (A. Oberg, et.al., 1985; R. Butt, et.al., 1985; D. Raymond, et.al., 1985) all focus in different ways on the necessity for a practical and concrete notion of reflective knowledge as a central feature of educational practice and student-teacher training.

Given this upsurge of interest in practical reflection and practical self-understanding, another look at Piagetian theory is required, since it is from Piagetian theory, whether directly or indirectly, that a great deal of the underlying ideas regarding pedagogical theory and practice originate, especially in the field of Early Childhood Education (Evans 1975). The reason another look is warranted is that, if we follow Piagetian theory, we find that what we are expecting of children, regarding the development of reflectiveness and self-understanding, is precisely *not* what we are expecting of ourselves as teachers of children. We do not act, in the context of "reflective practice," like the sorts of adults who form the normative ideal in Piagetian theory. To the extent that Piaget's theory remains implicitly normative for pedagogical practice, we (as "reflective practitioners") are not the adults we implicitly expect children to become.

It is, I believe, misleading at this juncture to say that Piagetian theory simply details the notion of self-understanding and reflection insofar as these form features of scientific discourse. It could be claimed that he is not speaking about the character of reflection and self-understanding insofar

*Faculty of Education, University of Calgary

as they emerge in and remain part of practice (pedagogical or otherwise). He is interested in the ways in which reflection and self-understanding underlie the theoretical discourse of science.

It is clear from certain features of Piaget's work[2] that he is maintaining more than this. Piaget maintains that a thoughtful understanding of the project and products of scientific discourse "can be accomplished due to the reflections of scientists themselves," (Piaget 1972a, p. 90) and that this reflection need not move beyond the task, internal to that discourse, of securing its objective character. Moreover, he says that "the sciences are self-sufficient and alone guarantee their own reflections" (Piaget 1971a, p. 225). Piaget is therefore not speaking solely and strictly about the nature and development of "the concepts and categories of established science," (Inhelder 1969, p. 23) but also of the relation between established science and the wider context of lived human experience in which, out of which, and in relation to which scientific discourse emerges in the first place. The nature of this relationship is quite clear. As a form of structuralism, Piaget's account of scientific discourse operates under "an ideal, (perhaps a hope) of intrinsic intelligibility, supported by the postulate that structures are self-sufficient and that, to grasp them, we do not have to make reference to all sorts of extraneous elements" (Piaget 1970b, p. 4-5). It is clear, from several statements in Piaget's work, that lived human experience and the practical contexts of self-understanding and reflection are just such elements.

Piaget's proclamations as to the self-sufficiency of scientific discourse tend, at least in principle, to close off that discourse from the whole complex of human life out of which that discourse has emerged. Of course, it is not closed off *in fact*. In fact we remain, as teachers, party to a multitude of courses of action, courses of understanding children and understanding ourselves in relation to children, of which scientific discourse is but one among many, and of which Piaget's version of that discourse is yet another peculiarity. But, in spite of the rich manner in which Piaget describes the developmental emergence of scientific discourse out of sensorimotor, preoperational, concrete-operational and, eventually, formal-operational actions of the subject, what seems to emerge out of all of this, where all of this seems to be heading, is toward an idealized caricature of the nature and place of science.

There is another problem with Piaget's proclamations as to the self-sufficiency of scientific discourse. It is what Husserl (1970) called the problem of "flowing in." The methods and the products of scientific discourse become, as he called it, "validities for the life-world" (p. 131).

There are two senses in which this phenomenon of "flowing in" becomes relevant for the practice of teaching and curriculum development. First, the results of scientifically produced and formulated notions of children, child development, teaching and learning, become part of common usage. This sense of "flowing in" has its own dangers, since it allows such notions to be used without retaining any *explicit* connection to the context of discourse from which such notions might have originally emerged. Students can bring with them to the practice of teaching notions such as 'children go through stages,' 'you have to begin with where the child is at,' 'children have to be ready for an activity' without bringing with these notions the implications of sense and contexts of sense-making that they originally referenced.

The other sense in which such "flowing in" becomes relevant is more disturbing than this because it is more indirect, less recognizable and, in some ways, more pervasive, powerful and convincing. The model of scientific discourse and the notions of evidence, truth, repeatability, prediction, verification, justifiability, knowledge, accountability, rationality and the like which are *internal to* scientific discourse can become inappropriately paradigmatic of "rational" or "warranted"

behavior in general. Lived human experience, and the practical, contextual, contingent, concerned, motivated, implicative, concrete forms of accountability that organize it can become judged against the paradigm of scientific discourse as being "subjective", "idiosyncratic" and "unaccountable."

I will, for now and in this context, skirt the two thorny issues that emerge from this form of "flowing in": the influx of measurability, precious to scientific discourse (and also precious to bureaucratic accountability), as a measure of educability and the reconstruction of pedagogical encounters under the image of the scientific experiment. I wish, rather, to look at the ideal of reflection and self-understanding that are taken as normative in Piaget's work. And I wish to do this against the background of a powerful and provocative statement by Stanley Fish (1980) which captures the urgency of critically analyzing the normative models which are implicit in the practice of teaching. "Every norm is also a morality, and whatever is defined in opposition to it is not merely different, but inferior and inessential" (p. 102). We must ask whether the ideals of reflection and self-understanding found in Piagetian theory and, perhaps, implicitly operative in the practice of teaching, in fact make recently emerging notions of "reflective practice" seem inferior and inessential.

After examining the ideal of reflection and self-understanding found in Piaget's work, I wish then to characterize, in broad outlines, a contrasting phenomenological notion of practical self-understanding and comment briefly on how aspects of the latter are appropriate to the development of the practice of teaching and the organization of student-teacher training.

*The Ideal of Self-Understanding and Reflection in Piagetian Theory*

In Piagetian theory, every understanding of the world, at every level of development, is an active construction of the world by a particular subject. In every understanding of the world, I am always already implicated, whether implicitly or explicitly, as the one who, by means of constructive interactions, has constructed that understanding in relation to the schemata with which I operate on the world. In this sense, every understanding of the world is potentially an occasion for self-understanding, potentially an occasion for understanding oneself as the one who understands the world in a particular way.

With the notion of the "cognitive unconscious" (Piaget 1976), a notion whose morphology comes from the work of Freud, Piaget has identified a natural tendency of thought not to actualize this potential for self-understanding which is inherent in every understanding of the world. Thought tends to direct itself to the object or content of thought and away from the "hidden functionings of the mind" (Piaget 1976) which are constitutive of that content. Thought tends, as phenomenology might put it, to be "positive" (Husserl 1970A): it tends to *posit the result* of the constitutive activity of consciousness as something which exists independently of that activity. In this way, what is actually a constructive achievement of the subject "*appears to the subject as a perceptually given feature of the object and independent of the subject's own mental activity*" (Elkind 1968, p. xii). It is this natural tendency of thought to be positive that gives rise to the thesis of naive realism (Piaget 1952). Realism has its origin, for Piaget, in the unconsciousness of thought regarding the "intimate mechanisms which direct it" (Piaget 1976a, p. 54) and by means of which it constructs a sense of the world.

It is in relation to this "inborn unconsciousness of thought toward itself" (Piaget 1972, p. 144) that Piaget often cites Binet's rather playful and provocative formulation, "Thought is the unconscious

activity of the mind." He maintains, in fact, that such unconsciousness "is by no means particular to infant thought. There is unconsciousness even at the level of scientific thought" (Piaget 1976, p. 34) to the extent that the latter involves "uncritical transpositions of habits of mind and ideas used in other fields" (Piaget 1962, p. 208). If we map these comments over and against one from *Insights and Illusions of Philosophy* (1971a), a picture of the ideal of scientific discourse begins to emerge. "A 'fact' presupposes interpretations resulting from the status of the problem and from its verification, but it is only a scientific fact if it leads, on the other hand, to an explicit interpretation that ensures its understanding" (p. 228). The developmental emergence of scientific discourse, therefore, seems to involve an orientation to an ideal of explicit interpretation, an ideal of remedying the inborn natural tendency of thought to operate implicitly or unconsciously.

One of the central processes in the achievement of this ideal is the process of reflection. In Piagetian theory, "reflection is understood in the psychological sense to mean a rearrangement, by means of thought, of some matter previously presented to the subject" (Piaget 1971, p. 320). This process of rearrangement is called "reflective abstraction (*abstraction réfléchissante*)" (Piaget 1971, p. 320). Reflective abstraction is not a pure explication of "an agglomeration of acts and operations previously made by the subject" (p.320). Rather, reflective abstraction, (along with every other cognitive act in Piagetian theory) is "a construction in the full sense of the word, a production of new combinations" (Piaget 1971, p. 222). It is "a reconstruction on an upper level of what is already organized in another manner on a lower level" (Piaget 1976, p. 43).

Reflective abstraction is thus linked to the notion of bringing to awareness the functionings and structures of action and thought which were previously unconsciously operative. However, reflection is not simply a mechanism whereby self-understanding or self-awareness occurs, as if it were an "illumination which reveals realities until then obscure, yet changes nothing whatever" (Piaget 1976, p. 40). Nor is it simply a reconstruction of what was previously presented to the subject as implicit, unconscious, tacit, assumed, pregiven or the like. Rather, it is a reconstruction *on an upper level.* It is a reflective *abstraction*, and as such, it is a feature of the development of cognition, and not simply an illumination or a rearrangement on the same "level." To the extent that the subject achieves a "higher" level of development in the process of reflective abstraction, the act of reflection involves not simply the revealing of the ways the subject understands the world, but a reconstruction of that understanding (and thereby a reconstruction of the self insofar as the self is implicated in its understanding of the world) on a higher level.

Self-understanding and reflection are thus intimately tied up with some sense of self-development. Each level of development involves, to a greater and greater degree, the reflective (i.e., reconstructive-abstractive) re-integration on a higher level of previous organizations. And "each step brings about a more inclusive and more stable equilibrium for the processes that emerge from the preceding level" (Piaget 1973, p. 7). There are two interrelated elements involved in this progressive achievement of stability and inclusiveness that are central to understanding Piaget's claims regarding the self-sufficiency of scientific discourse:

1. the increase in explicit awareness of the organizing activity involved in each level of development;

2. a parallel process of self-reconstruction involved in each progressive level of integration.

The progress of equilibrium toward stability and inclusiveness is not a progressive "conquest of things" (Piaget 1952, p. 363) that are conceivable independently of the nature of that conquest as a constructive conquest. The structures that define *how* the organism "conquers things" are, at

every level of development, constitutive of the thing it conquers (Jardine 1984). Thus, when Piaget states that "knowing reality means constructing systems of transformations that correspond more or less adequately to reality," (Piaget 1970, p. 15) the reality *to which* such systems are sequentially more and more adequate is not "the external world." Rather, the progressive forms of equilibrium are increasingly "adapted to the process of functioning itself" (Piaget 1952, p. 3). Intelligence, as formulated in Piaget's notion of scientific discourse, is an "extension and perfection of all adaptive processes" (Piaget 1973, p. 6), not because it has achieved that system of transformations which perfectly parallels the world, but because it has achieved that system of transformations which perfectly parallels *the process of adapting to the world.* One of the ways in which "systems of transformations" are more adaptive is the extent to which those systems recognize themselves as such. To the extent that a system of transformations (say, for example, the methods of a particular science) understands itself as such, it can consciously and explicitly anticipate the process of adaptation of which it is an instance. Instead of unconsciously operating on the world and suffering the need to accommodate those operations over the course of adaptation, it can, at the level of scientific discourse, lay out hypotheses whose potential need to accommodate is already anticipated. It is for this reason that the sequence of cognitive stages in Piaget's work clearly is oriented to a notion of *operations.* Higher forms of adaptation are not defined by the *fact that* they are constituted by the ways the subject operates on the world. Rather, the movement from concrete to formal-operational stages of development is defined by the fact that there is an increasingly explicit *awareness* of the fact that the subject operates on the world. Clearly, then, for Piaget, "the progress of reason doubtless consists of an increasingly advanced awareness of the organizing activity inherent in life itself" (Piaget, 1952, p. 19).

It is no surprise, then, that formal logic is the culmination of an awareness of the organizing activity inherent in life itself since, "at the highest level . . . self-regulation proceeds by the application of perfectly explicit rules, these rules being, of course, the very ones that define the structure under consideration" (Piaget 1970b, p. 15). Formal logic is, in a peculiar way, exemplary of the pinnacle of self-awareness, since with formal logic, the operations performed on an object and the object of those operations are identical. It seems, then, that the notion of self-understanding begins to dovetail with a notion of self-explicitness. But we have seen above that the process of self-development involved in the achievement of scientific discourse is precisely *not* a matter of explication-illumination, but a process of reconstruction-abstraction. In the process of the achievement of scientific discourse, as the most stable and inclusive form of equilibrium, is involved a parallel process of self-reconstruction.

The achievement of the ability to participate in scientific discourse not only means that the operations that the self instigates are explicit, conscious, self-aware, but that the self which instigates such operations has itself become reconstructed such that, in operating on the world, "we no longer intervene as an individual or distorting subject, but as an epistemic subject, the condition and instrument of objectivity (Piaget 1971, p. 338). As previously mentioned, the process of reflective abstraction is a constructive process. Over the course of cognitive development, how the individual operates on the world becomes progressively reconstructed into general ways of operating on the world that are held in common with others, i.e., "decentered" or "non-egocentric" operations (Schmitt 1983). Over the course of development and by means of "coordinating the covariations inherent in . . . data produced by different hypothetical observers" leading eventually to the ability to "separate the invariables from the . . . variations" (Piaget 1970a, p. 26), a distinction is slowly constituted between the individual, idiosyncratic or subjective assimilatory

schemata peculiar to any one individual, and those operations that the individual shares in common with others — "processes common to all subjects" (Piaget 1971a, p. 108). Thus, "objectivity" in scientific discourse "does not mean independence in relation to assimilatory activity, but simply dissociation from the self and egocentric subjectivity" (Piaget 1952, p. 366). Objectivity in scientific discourse is thus not an inert state, but the achievement of a common method of operation, a methodology. It is as a common method of operation that scientific discourse can be understood as a system of transformations, a set of operations. During the process of self-development, the subject must decenter itself away from the peculiarities of its individual position *vis à vis* the world, the peculiarities of its way of constructing a sense of the world, since such a position, because of its individuality, is "a source of possible deformation or illusion of a 'subjective' type" (Piaget 1970a, p. 25). It must decenter itself towards adherence to those methods or ways of constructing a sense of the world that are common to all. Such adherence leads to "the essential rule of only asking questions in such terms that verification and agreement is possible" (Piaget 1971a, p. 12), i.e., such that the questions posed "admit of a solution verifiable by everyone" (Piaget 1971a, p. 109).

Thus, the pinnacle of self-understanding in Piagetian theory is not simply an explicitness regarding one's interpretation such that understanding can be assured (as with Piaget's definition of a "scientific fact"). It is also, correlatively, the reflective reconstruction of one's position *vis à vis* the world, the paring away of the individuality of one's peculiar place in the world, and the achievement of a "decentered subject, who coordinates his actions as between them and those of others; who measures, calculates and deduces in a way that can be generally verified; and whose epistemic activities are thereby common to all subjects, even if they are replaced by electronic or cybernetic machines with a built-in logical and mathematical capacity similar to that of the human subject" (Piaget 1970a, p. 25). Note here the coordination of one's actions with others is not taking-up of the particularity of one's position *in its particularity* and understanding oneself as such in relation to others. On the contrary, what is involved is the forfeiting of that particularity in favor of "processes common to all subjects" — measurement, calculation and deduction. The development of self-understanding in Piaget's version of scientific discourse thus involves the methodical reconstruction of one's place in the world such that that place becomes indistinguishable from any other place, given that one is speaking of "others" who are at the same developmental level. One becomes, at the level of scientific discourse, an anonymous theoretical "actor" in which each of us becomes replaceable by anyone, such replaceability defining the objectivity of that discourse. Once achieved, the self-sufficiency of science is inevitable. The "self" which is understood as legitimately operative in the self-understanding of scientific discourse is not one which can question that self-sufficiency, since it is reconstructed at the outset as the condition and instrument of that self-sufficiency. Any deviation from this normative ideal of discourse is not merely different, it is inferior and inessential.

### *A Phenomenological Notion of Practical Self-Understanding*

What has been sketched out regarding the notion of self-understanding and reflection as found in Piagetian theory involves an ideal notion of the self-sufficiency of scientific discourse that it must necessarily pursue. It is the pursuit of this ideal — and the coincident ideals of anonymity, explicitness, the precedence of method and the like — which defines that discourse as scientific. A phenomenological approach to practical self-understanding does not want to quarrel with this necessity, as if scientific discourse should (or, in fact, could) pursue something else. Rather, it

deals with *the appearance of that ideal over the course of everyday life*, an appearance which is practically, rather than theoretically constituted. For example, it would ask the question "How does the ideal of scientific discourse, as a way of understanding children and ourselves in relation to children, appear in the context of and over the course of the practice of teaching as something one could pursue?" Note that this is *not* a question of the "application of theory to practice" but a question of the appearance of theory *as* a practical course of action in a practical context. It is in relation to such a practically constituted context of action, in which practically constrained and defined action must be taken, that the ideal of scientific discourse can appear as an appropriate, relevant, or necessary way of proceeding in that context. This is *not* to reduce the truth or objectivity of scientific discourse to its practical relevance. It is, however, to say that one cannot reduce questions of the relevance, appropriateness or place of scientific discourse to questions of its truth. It is to resist the problem of "flowing in" — scientific discourse is simply not always and everywhere appropriate and decisions as to its appropriateness must arise out of the context of practice by means of the reflections of a practitioner on what that context needs.

Thus, a phenomenological approach to practical self-understanding does not begin with a "rejection of science" (Merleau-Ponty 1970, p. viii), but it does resist what it sees as a dangerous reversal: the ideal of scientific discourse, which emerges out of the practically constituted context of everyday life as a unique, powerful and valuable possibility-of-understanding among others, is retroactively posited as providing the "norm" or "ideal" or "truth" of that life, such that the concrete particularity of human life and involvement in such particularity is deemed inferior, inessential, idiosyncratic, subjective, distortive and the like. The concerted practices of, for example, teaching, must therefore turn to theory if they are to know what they are doing.

It is this idealization of human life under the auspices of the ideal of scientific discourse, that phenomenology resists. And it is under this ideal that Piagetian theory operates. Phenomenology resists idealizing human life into the sort of thing to which only the theorist, practiced in the techniques of scientific discourse, can have access. Phenomenology therefore directs itself squarely against a peculiar phenomenon, noted by Harold Garfinkel (1984), that emerges if scientific discourse understands itself and its form of understanding as somehow self-sufficient: the social scientist, in investigating human life, uses models of rationality, accountability, explicitness and the like that are indigenous to that science, and then has the profound problem of discovering why the people *in* the situation investigated don't know and cannot know what the theorist knows. How is it that persons (say, for example, teachers in a classroom setting) can artfully constitute a practical setting and can communicate and give a "good" account of that setting to other practitioners regarding how it is organized, regarding what they did to organize it that way, and yet, from the theorist's point of view, not know what they are doing in the strict sense? Given the theorist's ideal of scientific discourse, practitioners are off-handedly characterized as acting on feelings or intuition, unable to distance themselves from the situation, being subjective, drawing on their experience (the latter term used to distinguish that resource from 'knowledge'), acting unconsciously, tacitly, from a personal perspective and the like.

A phenomenological approach to practical self-understanding gives credence, not only at the outset, but in principle, to the ways in which self-understanding actually appears over the course of everyday life. It does not opt for the "surreptitious substitution of idealized nature" (Husserl 1970, p. 49-50) for the actual ways in which everyday life is organized. It does not, as with Piagetian theory, contain a normative ideal of discourse against which one comes to understand

children (as developmentally at, lower, or higher than the norm) *or* adults (as orienting to the ideal of scientific discourse or as "being subjective").

I would like now to list, in broad outlines, some of the principles that I see to be involved in a phenomenological notion of practical self-understanding and to note briefly some of the ways in which such a notion could have import for the practice of teaching and for student-teacher training:

1. Practical self-understanding and reflection are *localized* and *concrete* in two different senses: (a) they are embedded in a particular life-history (Misgeld, 1985), a particular biography. It is always *my* beliefs, my actions, understandings, assumptions, prejudices, and the like that are at issue in this understanding. The "self" which is at issue in this understanding is understood concretely, rather than ideally: it is *I myself* who am at issue, and I am irreplaceable with anyone else in this understanding; (b) my beliefs, understandings and the like are not in question or at issue "in general" or "in theory" but in the midst of a concrete context, and a localized set of practices, such as the practice of teaching. It is in relation to this concrete context of practices that self-understanding emerges as a located or localized issue, in relation to the necessities of that practice.

2. Practical self-understanding and reflection require the cultivation of an experience of *ownership* and *appropriation*. They involve what Langan (1984), following Heidegger (1962), described as a matter of "taking a stand toward and thus accepting responsibility for one's situation" (pp. 101). In the practice of teaching, the beliefs one has about children, about teaching and the like, do not merely describe what one abstractly "knows" in theory, but describe what one does, what one stands for or against, one's orientation, one's "conduct." Practical self-understanding and reflection do not involve making explicit what one "knows" in theory, but a matter of taking responsibility for what one stands for in practice. It is in this sense of practical understanding as being what one "stands for" that Gadamer (1977) links it up with a notion of moral orientation and choice, and leads Misgeld et. al. (1985) to maintain that "knowledge is always a question of lived, practical insight and, understood in this sense, knowledge cannot be separated from questions of responsibility for the conduct of one's life. We are maintaining that, in the end, none of us knows more than what we have learned to live with, what we have learned to use as knowledge relevant to the organization of our relations with others and to the acquisition of self-understanding (which can orient further actions)" (p. 203-4).

3. Practical self-understanding and reflection are *temporal* and *contingent*. They are temporal, not only in the sense that they must be achieved over time — over the course of teaching — but that they must always be re-achieved over time. Over the course of teaching, one is constantly re-embedding oneself in actions, in beliefs, in assumptions, and one is constantly re-achieving self-understanding over the course of new situations that arise. Each new child, each new teaching situation, is the occasion for the re-achievement of self-understanding. Thus, re-appropriation to new situations is always necessary. In this way, "for the practical decider, the 'actual occasion'. . . exercises overwhelming priority of relevance to which 'decision rules' and theories of decision-making are without exception subordinated in order to assess their rational features, rather than *vice versa*" (Garfinkel 1984, p. 13). It does not suffice, in a practically constituted setting such as teaching, to say that an abstractly or theoretically stated rule must be simply applied to practice in order to make that practice comprehensible. Rather, it is actual teaching situations which make abstractly stated rules practically comprehensible, i.e., comprehensible as something practicable. It is by means of dealing with actual occasions

of teaching that we come to understand the rational features of rules, instructions, guidelines or techniques that were previously understood only "in theory" and come to understand ourselves as the one for whom such rules must be practically possible and not just theoretically "correct."

4. Practical self-understanding and reflection are *occasioned.* More often than not, one does not produce self-understanding *ex nihilo* as some self-generated, theoretical exercise, but in the confrontation with others whose beliefs, attitudes or understandings are different from my own. It is in the midst of the practice of teaching that I can be struck, not only by the fact that children think in a particular way, but that *I* think in a particular way. When self-understanding and reflection are practically provoked or compelled in this way, it is more vividly clear that it is *I myself* who am at issue in this understanding and reflection; it is more vividly clear that it is not simply a theoretical piece of information that has been rendered questionable, but I myself who have been brought into question, *vis à vis* something I have stood for and perhaps not realized I stood for. It is perhaps for this reason that the practicum experience can be so powerful for some students, since it is not a matter of the application of what one knows, but has to do, in some sense, with one's understanding of who one is, can or should be in relation to children and the practice of teaching.

In conclusion, if we begin by according full credence to the concrete, localized, temporal, contingent and occasioned nature of practical self-understanding and reflection as they are found in the practice of teaching, the self-sufficiency of scientific discourse is simply not an appropriate model. Resistance to the phenomenon of "flowing in" requires the development of an alternate form of discourse which will express the character of the practice of teaching in a way that does not fall under the shadow of the normative ideal of science. The texts and symposia mentioned at the beginning of this paper are the beginning of that work, and I believe that phenomenology can provide willing and valuable support to the work that is already being done.

## *NOTES*

[1] A shorter version of this paper was presented to the Canadian Association for Foundations in Education at the Learned Societies Conference, June 1985, Montreal, Quebec.

[2] There seems to be a fundamental distinction, in Piaget's work, between his descriptions of the actual emergence of scientific discourse in the life of the child and his attempts to give an account of the nature of scientific discourse itself. The former seem to portray scientific discourse as embodied in the actions of the subject (cf. Brief, 1983), whereas the latter works (cf. especially Piaget, 1971a) seem to fall prey to an idealization of that discourse which betrays such embodiment.

## *REFERENCES*

Brief, Jean-Claude. (1983). *Beyond Piaget: A philosophical psychology.* New York: Teachers College Press.

Butt, Richard, Clandinin, D. Jean, Connelly, Michael (1985). Biographical meaning and curriculum inquiry: Part 1 — Understanding teachers' personal and practical knowledge. A Symposium presented to the Canadian Association for Curriculum Studies, Learned Societies Conference, June, 1985, Montreal, Quebec.

Elkind, David. (1968). Editor's introduction to Jean Piaget. *Six psychological studies.* New York: Vintage Books, p. v-xviii.

Evans, Ellis. (1975). *Contemporary influences in early childhood education.* 2nd Ed. New York: Holt, Rinehart and Winston Inc.

Fish, Stanley. (1980). *Is there a text in this class?* Cambridge, Mass.: Harvard University Press.

Gadamer, Hans G. (1977). *Philosophical hermeneutics.* D.E. Linge, trans. Berkeley: University of California Press.

Garfinkel, Harold. (1984). *Studies in Ethnomethodology.* Padstow: Polity Press.

Heidegger, Martin. (1962). *Being and Time.* New York: Harper and Row.

Husserl, Edmund. (1970). *Crisis of European science.* Evanston: Northwestern University Press.

Husserl, Edmund. (1970a). *Formal and transcendental logic.* D. Cairns, trans. The Hague: Martinus Nijhoff.

Inhelder, Barbel. (1969). Some Aspects of Piaget's Genetic Approach to Cognition. In H. Furth. *Piaget and knowledge: theoretical foundations.* Englewood Cliffs, N.J.: Prentice-Hall Inc., p. 22-40.

Jardine, David W. (1984). The Piagetian picture of the world. *Phenomenology + Pedagogy, 2* (3), 224-239.

Langan, Thomas. (1984). Phenomenology and appropriation. *Phenomenology + Pedagogy, 2* (2), 101-111.

Merleau-Ponty, Maurice. (1970). *Phenomenology of perception.* London: Routledge and Kegan Paul.

Misgeld, Dieter. (1985). Self reflection and adult-maturity: Adult and child in hermeneutical and critical reflection. *Phenomenology + Pedagogy, 3* (3), pp. 191-200.

Misgeld, Dieter, Jardine, D.W. and Grahame, Peter R. (1985). Communicative competence, practical reasoning and the understanding of culture. *Phenomenology + Pedagogy, 3* (3), pp. 201-204.

Oberg, Antoinnette, Enns, R., & Carswell, R. (1985). Building self-reflective knowledge through journal writing. A Symposium presented to the Canadian Association for Curriculum Studies, Learned Societies Conference, June, 1985, Montreal, Quebec.

Piaget, Jean. (1952). *Origins of intelligence in children.* New York: International Universities Press.

Piaget, Jean. (1962). *Play, dreams and imitation in childhood.* New York: W.W. Norton.

Piaget, Jean. (1970). *Genetic epistemology.* New York: W.W. Norton.

Piaget, Jean. (1970a). *The place of the sciences of man in the system of sciences.* New York: Harper and Row.

Piaget, Jean. (1970b). *Structuralism.* New York: Harper and Row.

Piaget, Jean. (1971). *Biology and knowledge.* Chicago: The University of Chicago Press.

Piaget, Jean. (1971a). *Insights and illusions of philosophy.* New York: Meridian Books.

Piaget, Jean. (1972). *Judgement and reasoning in the child.* Totawa: Littlefield, Adams and Co.

Piaget, Jean. (1972a). The relation of science and philosophy. In Piaget, Jean. *Psychology and epistemology: toward a theory of knowledge.* New York: The Viking Press, pp. 89-120.

Piaget, Jean. (1973). *Psychology of intelligence.* Totawa: Littlefield, Adams and Co.

Piaget, Jean. (1976). Affective unconscious and cognitive unconscious. In *The child and reality.* London: Penguin Books, pp. 31-48.

Posner, G.J. (1985). *Field experience: a guide to reflective teaching.* New York: Longman.

Raymond, D., Butt, Richard, Ditisheim, M., Pinar, William, & Proulx, P. Biographical meaning and curriculum inquiry: Part 2 — Professional development and classroom change. A Symposium presented to the Canadian Association of Curriculum Studies, Learned Societies Conference, June, 1985, Montreal, Quebec.

Schmitt, W. (1983). Piaget and the egocentric tradition. *Phenomenology + Pedagogy, 2* (2), 162-171.

Schon, D. (1984). *The reflective practitioner: How professionals think in action.* New York: Basic Books.