Afterword

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I am deeply grateful to Ian Winchester who created this occasion to assemble a group of scholars and bring us together at the University of Calgary on the occasion of the 50th anniversary of *Interchange* and on the publication of my recent book “The mind on paper”. It was a wonderful occasion and I am grateful to all those who participated and contributed to this Special Issue.

Howard Woodhouse criticizes Olson for his unemotional, bloodless account of the role of language cognition and metacognition in the development of thought, insisting rather that feelings, the emotional side of experience, are the formative impulse in learning and self-development. Only what the learner can feel as worthwhile will be attended to and learned. Woodhouse cites Whitehead approvingly as suggesting that art was a more important factor than language in producing and advancing consciousness.

Cognitive theory such as that set out in *The mind on paper* is overly rational, composed as it is of concepts and logical relations some of which are tied to the uses of writing. Finding a place for emotion in such a scheme is difficult. Perhaps, as Woodhouse argues, any theory of learning, especially that of children’s learning will have to begin with feelings and emotions rather than concepts. He is not alone in this. A recent book *What we mean by experience* by Marianne Janack makes a strong case against computer models of the mind, urging us to reread Dewey’s *Art and Experience* just as Woodhouse does. But that does not diminish the importance of concepts and relations that allow us, in Bruner’s phrase, “to go beyond the information given”.

Cameron and Pinto Literacies as Contexta

Ann Cameron and Giuliana Pinto describe an ambitious research project designed to study how visual signs, including those for reading and arithmetic are encountered and learned in three very different cultures in different parts of the world. Unlike Olson’s studies that examine primarily single words and simple expressions, they

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show how the learning of literacy is contextually and culturally embedded in a way that allows children to see literate symbols as expressions of their own minds. Such findings have implications for education as the close interpersonal interactions that provide a context for learning are difficult to match in conventional schools where the learner's personal and emotional interests and social interactions are largely scripted.

One other finding that both delighted me and that has considerable theoretical significance was that the development of mind-reading abilities, that is, the ability to attribute mental states to others, was a good predictor of their ability to attribute meaning to symbols. It is the sort of finding that deserves more attention.

Jens Brockmeier can be counted on to contextualize any problem, including literacy. He shows that the interests and approaches adopted to study writing and literacy derive from large-scale historical and cultural changes. One of these is a shift from a kind of colonialist approach to literacy that involves learning to meet a universal, logical standard (I grant that my work may fall into that category) to one of literacy as self-expression in narrative form. He argues that narrative allows a kind of distancing the self from immediate reality into a more general cultural frame. This distancing allowing the kind of reflectiveness that Olson attributed to literacy. Interestingly, Brockmeier's suggestion fits nicely with Cameron and Pinto's findings that children, in learning literacy, are learning to treat language and symbols as reflections of their own minds.

Maria Medved's lucid and focused paper makes me proud to have once worked with her. She is the first, to my knowledge, to recognize the disfiguring of persons created by running them through written diagnostic tests. While granting that literate discourse is a specialized form of competence of great value in some contexts, a written expression designed to meet the canons of logic is very different from an oral conversational expression designed to share understanding. Oral discourse assumes what Grice called "the cooperative principle"; one's utterances are designed to meet the needs and interests of the other and to the shared purpose of the discourse. Medved shows that these social norms are routinely violated in the use of written tests, both in their use and in their interpretation. I recall once testing a child who asked "What do you mean?" and I was forced, by the protocol, to answer: "I can't tell you". The child was forced to recognize the I was not talking to him, I was presenting him with a written statement. Presenting written statements as if they were genuine expressions is particularly misleading to young children, people in stressful situations and to people in other culture where the discourse conventions are not shared. What Medved showed is that even in a single culture with speakers of the same language, written conventions of testing may distort our understanding of others, sometimes with grave consequences.

Sheldon Richmond correctly describes my argument that critical thinking evolves with a consciousness of language fostered by literacy. Furthermore, I argued that critical thinking was normative, governed by logical and linguistic rules. Richmond proposes an alternative derived from Socratic dialogues and posits that criticism may take several forms including of trial and error, clarifying what someone has said to the point that the original holder agrees the original position was indefensible, and making what is implicit explicit. I admired all of Richmond's forms of criticism. Now I ask: Are they related to my linguistic account. I'm not sure.

In my theory, writing preserved statements thereby opening them up for discussion and appraisal. I would acknowledge that oral statements, in some contexts, may be memorized and criticized but as memory is limited such criticism is also limited. Once statements are written down, they gain a kind of autonomy similar to that gained by quoting the expressions of another. As a critic, as listener is invited to report that statement from her own point of view, as, for example, true or false, believed or not believed, as a hunch or a conclusion. That is criticism. What makes criticism possible, I suggest, is the ability to understand a statement by another person without simply accepting and believing it, freeing one up to think about the statement in any way they choose and to offer their choice back to the original speaker.

I now think that forms of criticism are, as Richmond argues, much more pervasive than that which occurs with writing. Writing tunes it up, turning criticism into a discipline but as Richmond implies, people had been doing it all along.

Tara Callaghan works in an experimental paradigm very similar to the one I worked in most of my academic life. We make inferences as to what children are thinking on the basis of their decisions and design situations that may trick them out. A procedure we all learned from Piaget. In the first two or three years, children's consciousness appears to be tied to what is presently before them or to what is prompted by their needs and desires. But by three, they can talk, and their behavior is interpretable, which is to say, we and they are living in the same world. Whereas I worked mostly with words like say, mean, think, Callaghan worked primarily with images. The relation between the two has exercised theorists for decades. Although very young children recognize pictures, they confuse pictures and reality, licking a picture of an ice cream cone. When they are about 3 they realize that a picture can represent or stand for something other than itself. Callaghan says that they recognize the picture as a symbol. At about the same time they begin to recognize the intention of the actions of adults. Callaghan asks the interesting question of whether these two, symbol and intention are related. Her evidence suggests that they are. Conceptually, the two may be related as well. Pictures become symbols only when they are used by someone to communicate an intention to someone else. Thus, the picture on a box informs someone what is in the box, if they understand this communicative intention. Callaghan shows that younger children do not understand but three year olds do.

Visual signs need not resemble the objects they represent. Consequently abstract signs and printed words will do as well as long as the child can distinguish the signs and recognize the communicative intent. What matters is recognizing that someone means something by the sign and is attempting to communicate that meaning to someone. This is a recital of Peirce's theory of symbols.

I agree with Callaghan that we need a consistent vocabulary to describe just what young children are doing. That will be difficult, however, as long as the children don't know what they are doing either.