

Exercising the Imagination

Felicity Haynes,
The University of Western Australia,
Nedlands, Western Australia

Some elementary school children participating in an integrated arts programme with the support of visiting artists were asked what they thought creativity was. Joel said: "Creativity to me is just when you're imagining things and you put lots of imaginations together and you get one big imagination." For Hamish "Creativity is how far your mind wanders into the space of imagination." This paper argues that despite the strenuous efforts of educators such as Gardner, Egan and Eisner to promote imagination in schools they have not yet provided a model which can account for Joel's constructive exercise. Educators need to exercise still more imagination to remove imagination from a didactic or passive model of education. Learning to be imaginative is a complex and often chaotic process for which measurable outcomes, control and developmental models (even Egan's) are often inappropriate and for which requires a model of mind which is nonlinear, complex and actively makes connections.

I want to briefly explore the relationships between imagination, creativity, the arts and education in such a way as to show how they impinge on assumptions of mind, human agency and human understanding. A better title for this paper may have been a title taken from one of Donald Davidson's articles "Flying by the net of language", because it seems to me that imagination both flies by using social institutions like language and thus is a necessary component of education, and yet manages to fly past its constraints¹.

The context of this paper is my writing a book called Rethinking Thinking which places metaphor at its heart and at the heart of education. It is a project begun over twenty-five years ago for my doctorate on the relationship between insight and reason in learning and it is also the promised outcome of some funded research on creativity in school children. Specifically the research seeks to investigate how teachers promote creativity in the classroom through a commercial product, the Creative Challenge. Each of the twelve schools involved has K-12 children involved in a collaborative creative project with two different audiences -firstly their school, the second a Festival audience in the centre of the City alongside international artists. How do teachers pass on creativity in the arts, and do they do it in a different way from artists? The research is not asking simply for empirical evidence as to whether teachers or artists best promote creativity through the arts. Rather it is asking what sense does the question make in any but a scientific context in which the teacher or artists' actions have some effect on the child? How could we "give" a conceptual structure, a web of language, to each child that enables the child to create their own web of language and what is the role of imagination in helping a child create their own possible worlds from the presentation of another's way of looking?

What is the place of autonomy and authenticity in all of this? Do we presume as Skinner did, that creativity is picked up from the environment, a bit like a virus caught, rather than taught, in a sort of apprenticeship without autonomy or authenticity? If that were the case then there could never be any ascription of merit to the child or the teacher. It is an event without value ascription. I think Howard Gardner believes something like this, that because mind is an innate structure identical with neuronal states creativity must somehow be a chance combination of domains.

Gardner is a hero to many music teachers for widening the notion of intelligences beyond logic and verbal intelligences, but he has little help to offer teachers in the promotion of creativity or imagination. For Gardner, creativity is not an intelligence, "creativity" essentially and inevitably is represented by a product which is judged to be creative by communal judgement. The only way that we can reliably ascertain whether a person is creative is by observing the ultimate fate of the work(s) he or she has fashioned. He says p.116 My definition of creativity has revealing parallels with, and differences from, my definition of intelligence. People are creative when they can solve problems, create products, or raise issues in a domain in a way that is initially novel but is eventually accepted in one or more cultural settings. Similarly a work is creative if it stands out at first in terms of its novelty but ultimately comes to be accepted in a domain. The acid test of creativity is simple: in the wake of a putatively creative work, has the domain subsequently been changed? He believes that intelligence and creativity both involve solving problems and creating products but that creativity includes the additional category of asking new questions- something that is not expected of someone who is merely intelligent, in my terms. "Creativity differs from intelligence in two additional respects. First the creative person is always operating in a domain or discipline or craft. One is not creative or noncreative in general... Most creators stand out in one domain or, at most, in two. Second, the creative individual does something that is initially novel, but the contribution does not end with novelty - it is all too easy to do something merely different. Rather, what defines the creative act or actor is the ultimate acceptance of that novelty; and again, the acid test of creativity is its documented effect on the relevant domain or domains."

Gardner does call this "big C Creativity" because it affects a domain. The small-scale creativity that we might find in a classroom is simply "a novelty that brings delight". But this is where I begin to have misgivings about the understanding Gardner has of both creativity and intelligence. He approves of Mihaly Csikzentmihalyi's elegant formulation that creativity results from, an interaction among three separate elements: (1) an individual (potential) creator, with his or her talents, ambitions, and personal foibles; (2) a domain of accomplishment that exists in the culture; and (3) the field, a set of individuals or institutions that judge the quality of works produced in the culture. Because "by describing creativity in this way, Csikzentmihalyi removes creativity from the individual's psyche - an entity emanating from the mind or the brain of the individual". Gardner is proposing a neo-Darwinian notion of domains changing ecologically, in response to natural variations and selection, as in the Dawkins' notion of meme, a unit of cultural meaning that despite its social nature acts very much like a gene. There is no individual choice involved, no artistry or autonomy, simply a matter of responding socially to a chance change positively or negatively. Creativity is a communal judgement, the positive reinforcement to a stimulus

What has this to do with art, imagination and education? Nothing because for Gardner, imagination is irrelevant to creativity. By implication, imagination may take place in the individual psyche or brain, but it is individual small c creativity prior to being judged by others. It is therefore not extraordinary that, in Gardner's latest book *Intelligence ReFramed* 1999, "imagination" doesn't occur in the index, because he is still so locked into the genetic wiring and physical nature of intelligence that he cannot easily accommodate a process that is not hard wired, but breaks the rules. As with Skinner and de Bono, imagination is a chance event, an accident, a slippage of neuronal wirings.

Gardner has no place for imagination and creativity in his intelligences because there is no scientific evidence for them. He is locked into a positivistic stance that allows him no room for imagination. He is victim of a rigid Piagetian structuralism, the Frames of Mind which locks him

into fixed schemas, so that the child can use concrete operations to bootstrap him or herself into formal operations, but the formal operations will finally at the height of development reflect a universal disciplinary structure which exists physically. And maybe this is what Davidson meant when he said the very idea of conceptual scheme would lock us into assuming that such a thing had a physical existence. Intelligences are wired ways of processing "contents in the world" and an expert is one who can manage to field or domain, while the creative person is someone who has a restless temperament and is often inefficient: As long as intelligences are restricted to the processing of "contents in the world," we avoid epistemological problems. So it should be. The concept of "intelligence" should not be expanded to include personality, motivation, will, attention, character, creativity, and other valued human capacities. If we conflate intelligence with creativity, as we have seen in chapter 8, we can no longer distinguish between the expert (the person highly skilled in a domain) and the creator (one who expands a domain in new and unexpected ways). We would also fail to recognise that creative individuals stand out particularly in terms of their restless temperament and personality, whereas experts efficiently process informational content and accept the status quo. (Gardner, 1999, p.204-5) So education is for Gardner a matter of efficiently providing the basis " for enhanced understanding of our several worlds - the physical world, the biological world, the world of human beings, the world of human artifacts, and the world of the self. (Gardner 1999, p. 158) NOT through the arts, but through the genetic facts. When Koestler (1984) proposed that creativity arose from "the bisociation of matrices" he assumed that there was an active mind that made connections and created similarities between the different socio-cultural domains of architecture, engineering, biology, poetry and so on. In a similar way Jonathon Miller *The Body in Question* said that medical knowledge of the body could only develop by people seeing similarities between say the pump and the heart, or between a computer and the neural wirings of the brain. But these are not chance events like a stimulus/response mechanism. They are constructed metaphors where meaning is transformed from one domain to another and in the synthesis a new idea is conceived which will affect the whole way of seeing the body. Gardner has no mechanism for the person who wants to construct a metaphor to create new knowledge, to put as Joel suggests, "lots of imaginations together to make one big imagination". Both Egan and Eisner appeal, even in the titles of their books, to a purposive mind, that transcends and reorganises material functions of the brain. Eisner and Egan want to use imagination to move beyond a rational technicity and Gardner's scientism is just what they set out to subvert, So do they go far enough towards personal construction and meaning? I suggest the answer is no, but for different reasons.

Eisner wanted to invert the behaviorist and technicist curriculum and place the arts and imagination at the centre because he believed that too much emphasis was being placed on measurable and therefore surface outcomes. Yet he continually emphasises the importance of the disciplinary nature of the arts and ironically its truth. Like Egan, he seeks freedom from measurement through imagination, but despite his use of Dewey, it is not open-ended growth, or growth towards a participatory democracy, but locked into Dewey's concept of flexible purposing. Eisner is still in favour of explicit outcomes but his difference is that he needs them to be flexible and adaptable to context and purpose. Organizations may shift goals but keep their eye on the context in order to shift goals when needed. In a similar vein, those working in the arts keep their eye on the context defined by the work itself and take advantage of unanticipated developments in order to realize goals that were not a part of their original agenda. Of course to be in a position to shift goals means that there is in fact an inquiry process under way. By an inquiry process I mean a process in which an effort is made to resolve a problem. Without such a process in place, the shifting of goals is largely an empty enterprise, since it performs no important function. Thus the arts provide vivid examples of individuals immersed in tasks in which they are trying to bring something to resolution

but who are not rigidly pinned to aims that initiated the inquiry... this is a process of being flexibly purposive, a concept that Dewey articulated in *Experience and Education*. (Eisner, 2002 p.206)

For Eisner, as with Gardner and Immanuel Kant, the disciplines constitute mind, and the rational structure is metaphysical and a priori, that is the rational structure is what constrains the direction of new creations. Admittedly, discipline-based education is not the only way of viewing art - As Efland told us, our eclectic postmodern teaching world jams together the historical ways of viewing arts education. Eisner notes that some arts educators emphasise visual culture, others creative problem-solving, others creative self-expressions, others the vocational one of preparing the student for the world of work - giving lifeskills, and finally others see the arts as a form of cognitive development, which Eisner sees as related to a slightly different one, namely the promotion of academic excellence. This concatenation is reflected in the W.A. Curriculum Framework (1998), which though it has a key learning area called The Arts, nonetheless has four strands which emphasise separate aspects of these four "ideologies" of art teaching. But altogether? How do these relate to each other? Where does imagination enter any of them?

Egan quotes Eisner as identifying seven modes of thinking: Aesthetic, scientific, interpersonal, intuitive, narrative and paradigmatic, formal and spiritual, but these are often arranged in polarities. It is ironic that for the most part Eisner operates in binaries of reason versus imagination, form versus feeling, concept versus percept because he is still locked into a Kantian dualism of subjective objective dualities. With an explicit debt to Ernst Cassirer and Susanne Langer, Eisner wants to prioritise the subjective end of the binary and therefore opposes it to the metaphysical structure which to him is too academic and "out of touch" with the daily pragmatics. Locked into a modernist binary of reason vs feeling without seeing how the two interact creatively. So when he appeals to imagination, he is appealing to a holistic Aesthetic without showing how it relates to formal reason. What Eisner needs is some way of looking at how we integrate different disciplines. How we apply reason to practical judgement. See him on integrated curriculum. Stuck in schema as much as Gardner was. Stuck in a binary between feeling and form, between an empiricist emphasis on direct observation of the product and then evaluation of it, and a constructivist emphasis on individual construction of reality. What he says about imagination is still grounded in an empiricist programme in which the binary opposites are connected by structures of reason or unstructured intuition.

Although Eisner still places the teacher in control of the classroom as transmitter of the disciplines, the manager of the curriculum, he is trying to reinstate the priority of the Subjective over the Objective. Within this opposition he prioritises Binaries of feeling and form, qualitative over quantitative, practices over theory, subjective over objective, intuition over reason and intuition, individually diverse over mechanical, surprise over the predictable and evaluation over measurement. Task over achievement, (2002, 12) *Mind/Brain* p.240. Verbal/logical representation vs visual representation general and specific. When he describes the revolution in research (2002, 210-214) the aspect he pays most attention to is the move beyond the hypothetic-deductive model of research which prioritised the testing of abstract theories in the belief that the logical structure would help to provide essential or true propositions. "What has been problematized (in educational research) is the belief that the aim of research is to discover true and objective knowledge, that knowledge is discovered, implying that truth is independent of the perspective, frame of reference, values or criteria used to define the truth. Put another way, what society regards as knowledge depends upon the consensus of a critical community and the efforts of a researcher to use a form of inquiry that will meet the criteria that have been socially defined. Objective knowledge that describes something as it really is has become problematized "since there are infinite ways in which

something may be described. The idea that there is a way to capture the "real way something is presupposes that one can come to the world with a mind empty of all the prior experiences that might colour or bias one's view' all perception has its bias, that is its angle of refraction. Yet a mind empty of what culture and experience have provided , that is empty of bias, would see nothing." At the same time he moves away from the "objectivity" of statistical generalisations in another direction "... Humans generalise all the time without randomly selecting a sample from a larger population. We use our experience of individual events to form expectations and to draw conclusions" (Eisner, 2002, p.212) How? Up till now this is a constructivist vision, popularised by Bruner and Piaget. The mind constructs reality. But for Bruner and Piaget it is still a matter of hypothesising. What Eisner does to give imagination a higher status is to make the construction dependent on canonical images. These images are derived from the arts, from the sciences and from daily life, from what Neisser calls anticipatory schemata, or naturalistic generalizations (Donnmoyer). It is the view of arts based researchers that bias enters into descriptions and analyses of a school that has been studied, by virtue of omission as well as commission; when perspectives on a complex matter have no chance of emerging, they cannot be taken into account. But the Subjective that Eisner needs to replace the Objective is appropriately qualitative and value-laden. To move beyond a Kantian objectivity towards the imaginative, but to give imagination some grounding in the material that constrains the bias a little,, he moves towards pragmatism. What is provided by the imagination must have some social value or use.

This pragmatism is different from Gardner's naturalism. Gardner believes that through research we will find out what works and that once we know it will tell us what to do and how. Eisner (2002, p.214) reminds us that Aristotle had already made the distinction between the theoretical and the practical and that he himself once favoured Aristotle. Theories describe regularities, while particulars always deviate from what is regular or ideal. His own shift from the supremacy of the theoretical to a growing appreciation of the practical is a fundamental one because it also suggests that practical knowledge cannot be subsumed by the theoretic; some things can be known only through the process of action. In additions contexts inevitably differ and these differences are neglected at great peril. Knowledge of the context is an eclectic mix of what multiple frames of reference provide and " a feeling for the organism", to refer again to Barbara McClintock. Knowledge is less a discovery than it is a construction p.211. Practices in the real world are not pure theory, which is why Eisner can identify and accept four different modes of art teaching. The teacher chooses not the one which is theoretically sound, or the one which is intuitively true, but the one that works for them.

Eisner's pragmatism is reflected in his rather Popperian notion that the arts teach its practitioners to think within the constraints and affordances of a material (Eisner, 2002, p.236) This is a Popperian view of trial and error hypotheses, continually testing theories against the world and the function of imagination is to provide us with the hypotheses or possibilities to test, though now these hypotheses need not come from deductive theories, but may have arisen from our anticipatory schemata. Eisner says (2002, p.5)"Imagination, that form of thinking that engenders images of the possible, also has a critically important cognitive function to perform aside from the creation of possible worlds. Imagination enables us to try things out - again in the mind's eye - without the consequences we might encounter if we had to act upon them empirically. It provides a safety net for experiment and rehearsal."

"The ability to experience the qualitative world we inhabit is initially reflexive in character. We learn to see, to hear, to discern the qualitative complexities of what we taste and touch. We learn to differentiate and discriminate, to recognise and recall. What first was a reflex response, a function

of instinct, becomes a gradual search for stimulation, differentiation, exploration and eventually for meaning." This would seem like a straightforward Piagetian or neo-Kantian individual constructivism except that Eisner does not believe that the sensory system works alone; it requires for its development the tools of culture: language, the arts, science, values and the like. Eisner uses both Deweyan pragmatics and Vygotskian psychology to show how children build up systems of representation through social activities. If children's artwork is examined in social rather than in individual terms, it becomes apparent that what they learn when working on a painting or sculpture is not simply what they learn about dealing with a material; it is also a function of what they learn from others as they become members of a community. Social norms, models for behavior, opportunities to converse and share one's work with others are also opportunities to learn. With the aid of culture we learn how to create ourselves. Because sensibility and imagination can remain entirely private affairs, what is also needed "if the products of the imagination are to make a social contribution to our culture" is representation. (Eisner, 2002 p.5). "Representation can be thought of first, as aimed at transforming the contents of consciousness within the constraints and affordances of a material... representation stabilizes the idea or image in a material and makes possible a dialogue with it". (Eisner, 2002, p.6).

If there are stages, then the development arises from an engagement of the individual with the physical and social worlds and the construction of schemata or theories from feedback with those worlds. Mind emerges from the dialogue between the material world and the conceptual world, as does art: "I spoke earlier of the stages through which works of art are realized. These stages include the ability to experience the qualitative world, to frame an idea or issue that the work is to address, to create an imaginative vehicle through which it is to be realized, and to use a technical repertoire that will make its realization possible within the constraints and affordances of material. Each of these "stages" in the process of creation calls upon the use of a mind; each requires the use of what might be called - a bit too narrowly - cognitive skills. The argument I intend to develop here is that the ways in which children express themselves in the visual arts depend upon the cognitive abilities they have acquired and that the cognitive abilities they have acquired are related to both their biologically conferred and their learned abilities as these human features interact with the situation in which they work. Human performance in the arts is the offspring of a dynamic medley of interacting features: development, situation, and the cognitive abilities the child has acquired as a result of this interaction" (2002, p.107)

Eisner is not an individual constructivist in the Piagetian sense. He is more of a pragmatic constructivist like Dewey. Eisner believes in testing against reality and the social construction of knowledge through practices. What he is doing is to dethrone theoretical science as the only legitimate way to come to know and emphasises the importance of the practical, dealing with the changing nature of circumstance, a condition characterised by ambiguity and uncertainty. They give saliency to the practitioner. This change is an epistemological one. It represents a change in the way knowledge is conceptualised. It is a much more fluid concept of method. What counts as knowledge depends on perspective, time, interest, method and form of representation. What place does the imagination have in this social pragmatism? Imagination is seeing in the mind's eye? P.12 Seeing is an achievement, not merely a task. It is the result of making sense of a part of the world. Or seeing the tree as X? In his 13 point summary Eisner begins with the idea that humans are meaning-making creatures, and that meaning is not limited to what words can express p.230 The arts provide a spectrum of forms - we call them visual arts, music, dance, theatre - through which meanings are made, revised, shared and discovered. p.230.

2. Judgments about qualitative relationships depend upon somatic knowledge or "rightness of fit.". One must make judgements about relationships be "consulting" one's somatic experience: How does the image feel? Is there coherence among its constituent parts? Does it hang together? Is it satisfying? These questions direct one's attention to one's own bodily experience. We cannot consult a menu or retreat to a recipe p.231

3. Aesthetic qualities are not restricted to the arts; their presence depends on how we choose to experience the world. Aesthetic experience is in no way restricted to what we refer to as the fine arts. A tree, for example, can be viewed as an investment in the value of one's property, as a species of flora, as a source of shade or as an expressive form that provides a certain quality of experience when one looks at its leaves just before sunset p.231-2 The tree's aesthetic features become salient when we choose to perceive the expressive features of the tree.

And yet I remain unconvinced that Eisner has taken this dramatic revolution far enough because he does not take into account how each child makes these personal connections. He is still not clear HOW the child can make new and not necessarily functional connections in the world because he has separated off the qualitative from the quantitative, the feelings from the reason. His Deweyan pragmatism ties him to results for instance, which ignore the aesthetic notion of play. Eisner cannot account for the ornate elaboration of a 11th c. pair of Arabic scissors into the form of a bird or an African conversion of a head and elongated body into an elegant wooden spoon because the design is NOT merely functional. It is formal, and at the same time aesthetic. It is the way of being that opens for the artist new horizons of possibilities, Joel's big imagination, and those possibilities are not always pragmatic, can sometimes be beautiful or fanciful.

I described Eisner as a pragmatic constructivist, because he wants to move away from scientism to make imagination somehow "fit" or adapt to the material world functionally rather than theoretically. Egan is more like an historical constructivist partially holding a Marxist position that we are determined by our past cultural practices and we cannot or should not use the imagination to break free of them. Egan believes in mind and human agency much more than Gardner could and he believes less in the pragmatic problemsolving approach that imagination drives than Eisner. For him imagination is the central dynamic of cognitive development, not social approval, The mental driving force of conceptual change is social and historical - "contemporary disciplines have reworked insights from mythology, art and folk knowledge" to make them into frames of mind that are consonant with the wirings of the brain.

Egan deliberately denies a Piagetian scientific structuralism of the sort envisaged by Gardner in which mind is biologically preset towards its development towards formally structured operations. Piaget is neo-Kantian, in a scientific sense because his theory was derived from his study of molluscs, he still insists on "objective" empirical evidence to back his claims about human cognitive development and, although each child invents reality, each child does so in a way that is consistent with their genetic inheritance and will move inexorably to the same structures as any other human. As with classical Newtonian physicists, the formal laws will emerge from our testing of hypotheses because the laws and formal disciplines represent the way the world is the way the world is. Egan however is more of a social constructivist like Vygotsky and recognises the influence of culture and language on the way we view the world. He is more dynamic and begins from an account of the child's mind in its own right, not as the incipient formal operator of the adult.

Piaget claims to have described an underlying process of psychological development that is genetically programmed into us such that in interaction with appropriate environments, it will spontaneously develop. I am claiming that particular kinds of understanding develop as a result of us learning to deploy certain intellectual tools in societies that support the development of those tools. As far as education is concerned, Piaget has adopted the Rousseauian belief that the dynamic of the educational process lies in the internal psychological process he describes; the curriculum must conform to that process if it is to be meaningful to the child and supports the child's "operative" development. If Piaget was correct and his theory, or the emendations made to it in recent years, did adequately describe an internal psychological development, it would form one of the constraints on the development of the kinds of understanding I am describing. (Egan, 1997, p.195)

So unlike Gardner's naturalistic notion of a communal fact, and Piaget's inexorable "natural" development towards the individual construction of formal operations, Egan's hierarchy is based on historically established conventions, rather more like a dynamic ecological system in which various sociohistorical constraints shape our understandings, Imagination is the central process whereby we make sense of competing restraints, and transcend them.

Yet Egan's developmental model too presumes a development to some valued end, in this case Ironic imagination, which he calls the apotheosis of reason: Imagination is the apotheosis of reason, not a diversion from the real business of thinking... At its most complex it is a combination of Ironic and Somatic stages. The sense of Philosophic rationality I recommend incorporates Somatic, Mythic and Romantic characteristics that have commonly been suppressed by the more harsh and calculative kind of rationality promoted by positivists.

Eisner (in Egan, 1999, preface) describes this as "a more generous conception of mind (which) offers educators a more generous array of educational goals to address." Egan replaces the scientific and rationalistic enterprise of Piaget with a more humanistic concept of Imagination, which allows the child to imagine things other than they are presented to him or her. The Piagetian stages of development from preconventional through conventional to postconventional thought, or more commonly, from concrete operations to more formal ones, are replaced with his own stages: Somatic, Mythic, Romantic, Philosophic, Ironic, like Piaget's hierarchically integrative in that each incorporates the earlier ones. It is nonetheless developmental which leaves Egan with some difficult questions to answer about the "primitive" quality of somatic or spiritual knowledge. Asked if there is a further higher spiritual mode of development he replies that most of the candidates he's seen for a further spiritual kind of understanding seem straightforwardly Romantic. "Other forms of spiritual experience, evident in Buddhist and Christian meditation traditions, in which one aim is the suppression of the ego-self connect with the Ironic understanding's ability to see the coffee cup as a ceramic object stripped of its association with our conventional purposes. Various spiritual traditions teach us to see the world stripped of our stories, metanarratives and philosophic schemes and released from the perspective constructed by the ego self (Heesoon Bai, 1996. Moral perception in the nondual key: Towards an ethic of moral prioperception, unpublished PhD thesis Uni Brit Columbia). I do not consider this kind of spiritual experience a distinctive kind of understanding; rather I see it as a fruit of Ironic understanding when a richly developed Somatic understanding is preserved within it.

When asked if this is not simply another of those developmental schemes that covertly assert the superiority of white male Western thinking, that asserts that Mythic thinkers are inferior to Ironic

thinkers, or that cultures in which Ironic thinking is emphasised are superior to Mythic cultures, Egan replies: There are two general approaches: we can see them as simply hierarchical, in which the later forms are superior to those that precede them; if they weren't superior, after all, why would we want to try to develop them? Alternatively we can see them as somewhat distinctive ways of thinking, none of which is inherently superior to any other; they are just heterogenous, but equally valuable and useful for somewhat different purposes in somewhat heterogenous social and environmental conditions. In this alternative view, the later kinds do not provide any better access to truth or reality, but are simply fitted, in a Darwinian sense, for different environments; their value turns on their fitness for their sociocultural niche.

He could offer a more coherent theory if he could make up his mind whether it is hierarchical or holistic, but at the moment wants to have his bet both ways. Elsewhere in his role as Auctor, he says: I think Mythic understanding is better if you live in a mythic culture and Ironic is better if you live in a modern high-literate culture. Piaget's is a scientific theory aiming to expose something about the nature of human beings' development. Mine is a critical study aiming to expose how sociocultural contingencies in combination with logical and psychological constraints shape the development of kinds of understanding.

But this is vaguely reminiscent of the naturalistic ecology of Gardner's psychological development. It just happens. The social environment including its languages, values and cultures provides the structuring for a child's imagination which can allow the child to transcend it and by adopting an ironic stance, detect the differences between their cultural understanding and that of others. It is true that the trajectory of both Gardner and Eisner is to the pragmatic and functional, while Egan's is to the transformative and recognition of the Other, and that is an important difference, because Imagination, that apotheosis of Reason, enables a child to bootstrap themselves out of the constraints of the surrounding social mores and cultural constraints, but Egan still does not have a theoretical mechanism through which a child can do that.

The inversion of Reason and Imagination could be partially justified by an adaptation of Piaget's expanding horizons concept. In Piagetian literature, first one starts with the self, then the family, then the neighborhood, then the state, then the nation, then the world, in short, the child moves from an egocentric world to a world of global abstractions. One could argue that this does not have to be a naturalised process. It is logically necessary for Piaget's conception of language to be coherent and a similar semantic ascent towards the abstract occurs both in semioticians like Charles Morris and epistemologists like Karl Popper. One starts with the particular, learning words such as "dog" and "cup" by ostensive definition. Then as the world becomes more complex, the child has to organise these particular in more general and hence more abstracted "sets", providing a more abstracted schema of concepts such as "furniture" or "animals" which can be as easily logically manipulated as their more concrete representations. We will return to this idea later, as I think it is an oversimplification to presume that development necessarily proceeds to deductive logic and that a closer look at Piaget's notion of equilibrium might indicate that Piaget leaves more room for the dialectic of Reason and imagination than many educators have assumed.

Because Egan chooses to prioritise metaphor over logic and thus invert the developmental model, he seems to prioritise romanticism and imaginative love of the exotic at an early age over "mature" reason. "That young children's production and grasp of metaphor are commonly superior to that of older children and adults points again to a neglected conclusion about young children's thinking. In the past, children's thinking has been assumed, even presupposed, to be unqualifiedly inferior to

that of adults. All of the theories of intellectual development we have - and most influentially Piaget's - take current adult thinking as a kind of ideal, with children's development being measured according to the degree that it approximates the adult forms. In Piaget's case, this reflected the biological metaphor undergirding his psychological theorizing; thus the adult was taken as the completed form and the earlier immature forms were simply stages toward it. Such theories as Piaget's are "hierarchically integrative" that is, later stages encompass the achievements of the earlier stages. They recognize only gains in cognitive competence, not losses. In particular, they do not recognize that in recapitulating the process of western intellectual development, children might be paying an intellectual cost that we as a civilization have paid. But so long as this cost goes unrecognised, we can't ask whether it is worthwhile or necessary."

But of course his educational agenda is essentially conservative, and he doesn't want to deny the importance of developing towards abstract thought. He says (1997, p.56) Metaphor is sometimes represented as a kind of opposite to logic, but it is perhaps worth emphasising that the two are far from discrete in our thinking. Cassirer makes the point that metaphor is one implication of language development, but that language carries with it the further implication of logic. As we become increasingly conscious of language - and the most potent instrument for increasing awareness of language has been writing - logic becomes more prominent. We see the network of logical relationships implicit in language and can begin to make them more explicit, because by understanding them we can gain more secure pragmatic control over the world that language tries to grasp. Metaphor develops earlier and more easily than logic, both historically and in our individual experience. Metaphor and logic represent points on a continuum of language uses; in any productive, generative thinking, we are likely to find the two at their somewhat distinct, but properly cooperative, work. Egan's model is original in reversing the unique valuing of abstract reason to emphasise the valuable attributes of romantic interest in the exotic and sensuous reality that a child possesses, holding however the hierarchical integration that Piaget did. So Imagination is at the heart of his developmental model because while it naturally progresses towards reason, it does not leave imagination behind. This is a very different epistemology from Eisner's more Aristotelian one, even though they both aim at showing how many educational systems suffer by cultivating a logo-centric conception of mind that diminishes the imaginative and romantic side of human nature.

Education serves a social function to preserve the cultural heritage, but the determinism of that is mitigated by Egan's desire to recognise the needs of the individual child: The modern school is expected to serve as a significant agency in socialising the young, to teach particular forms of knowledge that will bring about a realistic and rational sense of the world, and to help realize the unique potential of each child. These goals are generally taken to be consistent with one another, somewhat overlapping and mutually supportive. However each of these aims is incompatible in profound ways with the other two. As with prison's aims to punish and to rehabilitate, the more we work to achieve one of the school aims, the more difficult it becomes to achieve the others,`` (Egan, 1997, p. 10). The opening lines of that could be pure Gardner, where the unique potential of each child consists in the development of their intelligences and there is no incompatibility. The child must just do what comes naturally and be helped to do it. Egan of course wants the individual to develop alternative possibilities through imagination and that is why the two aims for him are incompatible. But the ontological status of his developmental stages remains ambiguous. The argument is that imagination comes "naturally to a children", but one would think Egan would eschew any notion of proof or evidence that his educational ideas WORK better than, for instance, Gardner's theory of intelligences. No, his is a value position, one more way of telling the story about humans, and as such requires political consideration, not evidence. Indeed, we are being

asked to exercise our imagination and imagine an education system other than it is. For a child to be encouraged to understand the social mores of the surrounding culture through the myths and then encouraged to think things other than they are through romantic consideration of the exotic, requires a teacher or educational system which is always presenting multiple possibilities. Egan's agenda is a political one, like critical theory, trying to keep the bastards honest, to use an Australian idiom, or trying to keep the educational systems open, but he has no way of arguing that his prior valuing of imagination is better than the old way of making children or society better. The only way he can succeed in overcoming prevailing hegemonies is to adopt a naturalistic stance and say that the developmental model he sketches of child's imagination is a natural one in which case the onus is on him to provide evidence, and show how education carried out in an imaginative fashion works better. Ironically, the imagination will have to adopt a scientific discourse to overthrow the dominant scientific discourse, which feminists and Foucauldians know is one of the impossible traps of being in a less dominant hegemony than the dominant institutional values.

So is there a way out? Egan seems trapped in the contradictions of a hierarchical and increasingly inclusive developmental model and Eisner confined to a pragmatic adaptive functionalism which doesn't leave room for artistic or imaginative play. I suspect the answer lies in the Continental perspective favoured by Maxine Greene. Greene is much more with a Heideggerian notion of Being which is complex, multiple and manifold rather than linear and rational. It places the emphasis on the relation of "Being-in-the-world" and the relatedness of being rather than the analytic frame of things or concepts and the relation between them which accompanies the Kantian belief in rational structures.

In both Eisner and Egan there is still an emphasis on the individual ego, the self as if it were a conscious self adapting to the world. But the imaginative relation is not the rational or functional connecting of form and feeling, of reason and intuition, of body and mind it is a way of making meaning through being there. Eisner gets close to it when he speaks of the scientific imagination (Eisner, 2002, p.199) and describes how Barbara McClintock employed her imaginative processes to participate empathetically in the interior of a living cell. Quoting her biographer Evelyn Fox Keller, "McClintock says it more simply: "I am not there!" The self conscious "I" simply disappears. Throughout history, artists and poets, lovers and mystics, have known and written about the "knowing" that comes from loss of self - from the state of subjective fusion with the object of knowledge. But then Eisner quotes Einstein in terms which still make this an act of connecting: "The state of feeling which makes one capable of such achievement is akin to that of the religious worshipper or of one who is in love. Scientists often pride themselves on their capacities to distance subject from object but much of their richest lore comes from a joining of one to the other, from a turning of object into subject." Einstein too talks of the joining, the connections between object and subject of the connections between reason and Einfühlung. Eisner keeps on worrying about things as they are and their representation in "objective" form: "Inviting students to use their imagination means inviting them to see things other than the way they are. And, of course this is what scientists and artists do; they perceive what is, but imagine what might be, and then use their knowledge, their technical skills and their sensibilities to pursue what they have imagined." This is not the "Being-with" that Greene and Heidegger pursue in the artistic imagination.

Maxine Greene began with the writing of the Continental existentialists, moved into phenomenology and now has been writing brilliantly about the ethic of care, and how important a sense of community is to education, in which relationships of mutual importance between teacher and students between teachers and teachers, between students and students are of paramount

importance. It is not quite Einfühlung or empathy, but the establishment of community is far more important for artistic flow than Csikszentmihalyi's more sociological approach suggests. My current research into the impact of a community of inquiry in the arts classroom will provide some evidence of this.

My research also shows that this importance of connecting with one another in ethical relationships of mutual respect requires a different epistemological model. Briefly here, I can only say that one has to move away from a hierarchical stages model in which one moves up a ladder towards formal abstraction and the sensed objects become disconnected symbols of representation, even if one wants to include references back to the somatic, because these connections are logical, not felt or understood.

George Lakoff, in *Women Fire and Dangerous Things* identified two major ways of knowing: the analytic one, to which Eisner and Egan for all their valuing of the arts, still adhere, and the experiential one, which Lakoff identifies with the Aboriginal way of knowing. This is a dynamic and complex network of relations which continually makes new connections. When Joel, with all the wisdom of a ten yearold, said Creativity to me is just when you're imagining things and you put lots of imaginations together and you get one big imagination, he seems to me to be right, but only if one can view the mind as a huge empathetic network of experiential relations . I want to suggest you imagine a new way of seeing mind, as a web of increasing connections, the more people you have reached out to to understand. That allows for irony, but irony is not a "higher" development on a hierarchical stage. It is simply the ability to reflect on some structures through another structure, to bypass the standard ways of looking, to select some unusual ways of addressing the problem. Egan is right in that the distancing of irony allows us to control our artworks by stepping aside from them and it requires imagination. Lakoff and Johnson may have been partly right in suggesting that we do it through perceiving similarities and differences - after all they wrote about metaphor too. "Integration and differentiation, towards complexity" said Csikszentmihalyi of the mental dynamic necessary for flow. In that it is an act of putting imaginations together to make one big imagination and in stepping aside from that big imagination to differentiate its parts and reassemble them for a different purpose. In a weird sense we can put together the contributions made by Eisner and Egan regarding the adaptive capacity of mind, and the ironic distancing required for action, and the somatic, experiential aspects that drive reason, but when we do it in a complex net of relationships rather than a metaphysical structure that develops or pre-exists, we begin to see new possibilities of promoting imagination in schools. Through an act of judgement which need be neither conscious nor rational we select the features salient to our purpose in a very complex and dynamic network of relations which we inhabit, the imaginative sense of being which constitutes our dynamic self.

References:

Bai, Heesoon (1996) "Moral perception in the nondual key: Towards an ethic of moral proprioception", unpublished PhD thesis University of British Columbia.

Csikszentmihalyi , M. (1989) *Flow*, University of Chicago Press. Davidson, David (1973) On the very idea of a conceptual scheme, *Proceedings of the American Philosophical Association*, 47 (1973-4) pp5-20

Davidson, Donald (1979) What metaphors mean in Sacks (ed) *On Metaphor*, pp. 29-46

- Davidson, Donald 1986, 'A Nice Derangement of Epitaphs', in LePore (ed.), 1986.
- Davidson, Donald (1988) James Joyce and Humpty Dumpty, unpublished paper.
- Davidson, Donald (2001a), *Essays on Actions and Events*, Oxford: Clarendon Press, 2nd edn,
- Davidson, Donald (2001b), *Inquiries into Truth and Interpretation*, Oxford: Clarendon Press, 2nd ed.
- Egan, Kieran (1985) "Imagination and learning." *Teachers College Record*. Vol. 87, No. 2, 1985, pp. 155-66.
- Egan, Kieran and Dan Nadaner (eds.). (1988) "The origins of imagination and the curriculum" in *Imagination and Education*. New York: Teachers College Press.
- Egan, Kieran, 1997 *The Educated Mind: How Cognitive Tools shape our Understanding*. University of Chicago Press.
- Egan, Kieran (1999) *Children's Minds, Talking Rabbits and Clockwork : Changes - Essays on Education* Teachers College, Columbia University: Teachers College Press.
- Eisner, Elliot, (1991) *The Enlightened Eye: Qualitative Inquiry and the Enhancement of Educational Practice* New York: MacMillan.
- Eisner, Elliot, (1994a.) *The Educational Imagination: On the design and production of school programs*, 3rd ed New York: Prentice-Hall.
- Eisner, Elliot, (1994b) *Cognition and Curriculum Reconsidered* New York: Teachers College Press.
- Eisner, Elliot, (2002) *The Arts and the Creation of Mind* Yale University Press.
- Gardner, H. (1999) *Intelligence ReFramed: Multiple Intelligences for the 21st Century* NY Basic Books.
- Greene, Maxine (1995) *Releasing the Imagination* San Francisco: Jossey Bass.
- Koestler, A. (1984) *The Act of Creation*, Doubleday Press.
- Langer, Suzanne (1948) *Philosophy in a New Key* Cambridge: Harvard University Press.
- LePore, Ernest (ed.), (1986) *Truth and Interpretation: Perspectives on the Philosophy of Donald Davidson*, Oxford: Basil Blackwell.
- Malpas, J. E., (1992) *Donald Davidson and the Mirror of Meaning*, Cambridge: Cambridge University Press.
- Miller, Jonathon (1989) *The Body in Question* TV series.
- Ortony, Andrew (1978) *Metaphor and Thought* Champaign-Urbana: University of Illinois Press.

Sacks, Sheldon (ed) (1978) *On Metaphor* Chicago and London: The University of Chicago Press

1 Davidson was a philosopher who held, like Wittgenstein, that one shouldn't look for the meaning, but rather the use to which words were put. He was a critical realist, believing that there was no such thing as a conceptual scheme if by that we meant something that was separated out from what we did. One's reasons for doing something were as effective as causes, and should be considered to be of the same kind. He also believed that metaphors were literal, and sought to explain how we could make sense of a statement such as "The ball moved from left to right."