

# **Art and Human Development**



Jean Piaget Society

36th Annual Meeting

June 1-3 2006

### **PLENARY SPEAKERS**

Murray Forman
Norman Freeman
Carol Lee
David Lewis-Williams
Ellen Winner

ORGANIZERS: Cynthia Lightfoot • Constance Milbrath

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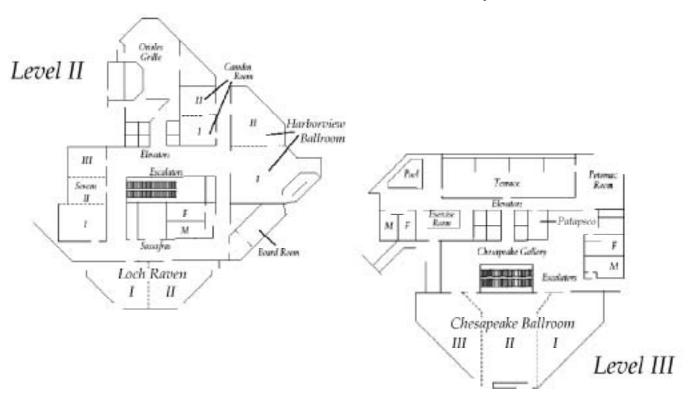
### **Art and Human Development**

June 1–3, 2006, Baltimore, Maryland
Constance Milbrath & Cynthia Lightfoot, Program Organizers

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### Sheraton Inner Harbor Hotel floor plan



# Program Overview: Thursday, June 1

THURSDAY	Chesapeake II	Chesapeake III	Loch Raven I	Loch Raven II	Chesapeake I	Patapsco	
8:30-5:00		Registratio					
9:00-10:30	PLO1	Plenary Session 1	– David Lewis-Wil	liams			
10:30-10:45		Bre	eak				
10:45-12:00	SY01	PSO1	SY02	PSO2			
12:00-1:30		Lur					
1:30-2:45	PL	.02 Plenary Sessior	Poster	Book			
2:45-3:00		Break				display	
3:00-4:30	ISO1	SY03	PSO3	PSO4	lall days	(all day)	
4:30-4:45		Bre	(all day)	(dir ddy)			
4:45-5:45	PTO1 – Poster Session 1 (Chesapeake I)						
5:45-6:00	Break						
6:00-7:00	ART – Artists' Panel (Chesapeake II)						
7:00-8:00	President's Rec	President's Reception (sponsored by Lawrence Erlbaum Associates)					

Time	Location	ID	Event
8:30-5:00	Foyer		Registration (all day) / Book Display (all day)
9:00-9:15	Ches II		Opening Remarks: JPS President and Program Organizers
9:15-10:30	Ches II	PLO1	Plenary Session 1: David Lewis-Williams – The mind in the cave: Consciousness and the origins of art
10:45-12:00	Ches II	SY01	Symposium Session 1: Creativity, giftedness, and novelty: Frills or fundamentals?
	Ches III	PSO1	Paper Session 1: Issues in cognitive development
	Loch I	SY02	Symposium Session 2: Varieties of relational narrative: Differing identities in differing relational practices
	Loch II	PSO2	Paper Session 2: Music development and arts education
1:30-2:45	Ches II	PLO2	Plenary Session 2: Murray Forman – Hip-hop culture, youth creativity, and the generational crossroads
3:00-4:30	Ches II	ISO1	Invited Session 1: Art, self & culture
	Ches III	SY03	Symposium Session 3: Developmental and clinical perspectives on imaginary companions
	Loch I	PSO3	Paper Session 3: Language and communication
	Loch II	PSO4	Paper Session 4: Arts education—drawing
4:45-5:45	Ches I	PTO1	Poster Session 1: Cognitive and Social Note: posters will be available for viewing all day, authors will be present only during this session
6:00-7:00	Ches II	ART	Artists' Panel: Creative processes across the arts
7:00-8:00	Gallery	REC1	President's Reception(sponsored by Lawrence Erlbaum Associates, Publishers)

# **Program Overview: Friday, June 2**

FRIDAY	Chesapeake II	Chesapeake III	Loch Raven I	Loch Raven II	Chesapeake I	Patapsco
8:30-5:00		Registratio				
9:00-10:30	ISO2	SY04				
10:30-10:45		Bre	eak			
10:45-12:00	PLO3 P	enary Session 3 –	Carol Lee (Chesap	eake II)		
12:00-1:30	Lunch (	Annual Members N	Poster	Book		
1:30-2:45	SY11	DS01	PS06	PSO7	viewing	display
2:45-3:00		Break				aisplay
3:00-4:30	ISO3	PSO8	SY06	SY07	(all day)	(all day)
4:30-4:45		Bre				
4:45-6:00	PLO4 P	lenary 4 – Norman				
6:00-7:00		PTO2 Poster Session				
6:30-7:30	Reception	on (sponsored by E				

Time	Location	ID	Event
9:00-10:30	Ches II	ISO2	Invited Session 2: Why arts education? Research evidence about processes and outcomes
	Ches III	SY04	Symposium Session 4: Executive functioning & emotion regulation
	Loch I	PSO5	Paper Session 5: Cross-cultural issues in social relations
	Loch II	SY05	Symposium Session 5: Theoretical dialogue about the development of young children in a child care center
10:45-12:00	Ches II	PLO3	Plenary Session 3: Carol Lee – Every shut eye ain't sleep: Modeling the "scientific" from the everyday as cultural processes
1:30-2:45	Ches II	SY11	Symposium Session 11: Possibility and its play in critical exploration
	Ches III	DS01	Discussion Session 1: Whither equilibration and co-construction? Have we made good on the promise of Piaget's interactionist view?
	Loch I	PS06	Paper Session 6: Narrative development
	Loch II	PSO7	Paper Session 7: Arts education: General issues
3:00-4:30	Ches II	ISO3	Invited Session 3: Discovery and invention in the context of learning
	Ches III	PSO8	Paper Session 8: Representation & Reasoning
	Loch I	SY06	Symposium Session 6: Moral development and social interaction
	Loch II	SY07	Symposium Session 7: Development through creativity and "wonderful ideas": Student explorations of art and science
4:45-6:00	Ches II	PLO4	Plenary Session 4: Norman Freeman – How children intuitively develop into amateur art critics
6:00-7:00	Ches I	PTO2	Poster Session 2: Education/Morality/Theory Note: posters will be available for viewing all day, authors will be present only during this session
6:30-7:30	Gallery	REC2	Reception (sponsored by Elsevier Science, Publishers)

# **Program Overview: Saturday, June 3**

SATURDAY	Chesapeake II	Chesapeake III	Loch Raven I	Loch Raven II	Chesapeake I	Patapsco
9:00-10:30	SY08	PSO9	SY09	SY10		
10:30-10:45		Bre	eak			
10:45-12:00	PLO5	Plenary 5 – Ellen '	Winner (Chesaped	ke II)		
12:00-1:30		Lunch (Board of Directors Meeting)				Book
1:30-2:45	воок		SY12	PS10		display
2:45-3:00		Bre	eak			(all day)
3:00-4:30	ISO4	SY13	PS11	PS12		(dii ddy)
4:30-4:45		Bre				
4:45-5:30	Ter	rry Brown Tribute (F				

Time	Location	ID	Event				
9:00-10:30	Ches II	SY08	Symposium Session 8: Transgression and transformation: Thresholds to creativity				
Ches III P		PS09	Paper Session 9: Social cognition and social relations				
	Loch I	SY09	Symposium Session 9: Developmental psychology in Brazil: Mapping research themes and socially relevant issues				
	Loch II	SY10	Symposium Session 10: Musical composition and improvisation in early childhood				
10:45-12:00	Ches III	PLO5	Plenary Session 5: Ellen Winner – The development of giftedness and creativity in the visual arts: What would Piaget have said?				
1:30-2:45	Ches II	ВООК	Book Discussion Session: Discussion of Jean Piaget's Possibility and Necessity: Volume 1, The role of possibility in cognitive development				
	Loch I	SY12	Symposium Session 12: The performing art of human development in educational, therapeutic and theatrical settings				
	Loch II	PS10	Paper Session 10: Imagery and creativity				
3:00-4:30	Ches II	ISO4	Invited Session 4: Children's graphic inventions				
	Ches III	SY13	Symposium Session 13: Relational meta-theory and developmental science: Exploring the uses of metaphor, hermeneutics, and worldviews in the study of human development				
	Loch I	PS11	Paper Session 11: Self and Identity				
	Loch II	PS12	Paper Session 12: Creativity, cognition, and intersubjectivity				
4:45-5:30	Harborview		Terry Brown Tribute (Harborview Ballroom)				

8:30-5:00 Foyer Registration (all day)

Patapsco Book Display (all day)

9:00-9:15 Ches II PLO1 Opening Remarks – JPS President & Program Organizers

9:15-10:30 Ches II PLO1 Plenary Session 1 – David Lewis-Williams

#### The mind in the cave: Consciousness and the origins of art

David Lewis-Williams (University of Witwatersrand)

The transition from the Middle to the Upper Palaeolithic in Western Europe was the time when human beings committed themselves, seemingly irrevocably, to making pictures and, at the same time, to developing complex social structures. Deep underground, by the light of flickering lamps, they limned bison, horses, aurochs and other animals. This presentation considers diverse evidence for why they made this commitment and for why they first began to think that small lines on a flat surface can stand for a huge, live, moving animal. The evidence derives from the cave art itself, hunter-gatherer communities around the world, and from recent neuropsychological studies of altered states of consciousness. The naturally labyrinthine caves were transformed into manifestations of a complex supernatural realm and also into social templates that reflected the first distinctions between people that went beyond brute strength, age and sex.

10:30-10:45 Break

10:45-12:00 Ches II SY01 Symposium Session 1

#### Creativity, giftedness, and novelty: Frills or fundamentals?

Organizer: Lynn S Liben (Pennsylvania State University)

Discussant: Norman Freeman (University of Bristol)

Developmental psychologists and educators alike often place creativity, giftedness, and novelty on the periphery of their work. In the world of education, for example, when budgets are lean, it is common to see cuts made in art education, and to limit the funding of special education for gifted children. In the world of developmental psychology, theory and research commonly focus on what is normative, rather than on what is exceptional. Indeed, Piagetian theory is a particularly good example of an approach that is centered on universals of development.

This symposium reverses this tradition by asking how creativity, giftedness, and novelty inform both developmental theory and educational practice. In "Gifted Spatial Thinking in Science and Art," Lynn Liben will describe a program of work linking developmental progressions in spatial concepts to children's success on both scientific and artistic tasks, discuss spatially gifted thinking, and suggest how this work may inform educational programs. In "Art Not Just for Art's Sake: Does Arts Learning Transfer?" Ellen Winner will describe an ethnographic study of intense visual arts classrooms, report observed cognitive skills and working styles that are potentially generalizable, and raise issues involved in facilitating and studying the transfer of skills across domains. In "Universals Are Not Enough: The Role of Novelty and Transformational Thinking in Ontogenetic Development and in Developmental Theory," David

Henry Feldman will address basic theoretical questions concerning the role of novelty and transformational thinking in individuals and in society, with a particular focus on how novelty contributes to advancement of knowledge in the circle of the sciences.

The discussant, Norman Freeman, will draw from his prior work on artistic development and developmental theory to comment on integrative themes and future directions.

Gifted spatial thinking in science and art

Lynn S Liben (Penn State)

Art not just for art's sake: Does arts learning transfer?

Ellen Winner (Boston College)

Lois Hetland (Massachusetts College of Art)

Shirley Veenema (Harvard Graduate School of Education)

Kim Sheridan (Harvard Graduate School of Education)

Patricia Palmer (Harvard Graduate School of Education)

Universals are not enough: The role of novelty and transformational thinking in ontogenetic development and in developmental theory

David Henry Feldman (Tufts University)

10:45-12:00 Ches III PS01

Paper Session 1

#### Issues in cognitive development

Chair: Peter Kahn (University of Washington)

Faraday and Piaget: Experimenting in Relation with the World

Elizabeth Cavicchi (MIT)

The natural philosopher Michael Faraday and the psychologist Jean Piaget experimented directly with natural phenomena and children. While Faraday originated evidence for spatial fields mediating force interactions, Piaget studied children's cognitive development. This paper treats their experimental processes in parallel, taking as examples Faraday's 1831 investigations of water patterns produced under vibration and Piaget's interactions with his infants as they sought something he hid. I redid parts of Faraday's vibrating fluid activities and Piaget's hiding games. Like theirs, my experiences showed that incomplete observations and confusions accompanied—and facilitated—experimental developments. While working with things in their hands, these experimenters' minds were also engaged, inferring new, more coherent understandings of the behaviors under study. Transitory ripples disclosed distinct patterns; infants devised more productive search methods. From the ripples, Faraday discerned an oscillatory condition that informed his subsequent speculations about light. From the infant search, Piaget identified experimenting as a child's means of developing self and world, later envisioning its infusion into education. Taken together, these two stories demonstrate that cognitive capacities emerge in the actual process of experimenting. This finding eclipses the historical context in its implications for education today. When learners pursue their own experiments, their minds develop.

Innovation and Intuition in Science: Preliminary suggestions from research on the interaction between personal and disciplinary epistemologies

Jen Arner (Clark University)

Mainstream discourses about science both within and without the discipline suggest intuition plays little or no role in the formulation of scientific theories or the daily practices of scientists. When intuition is recognized – prototypically in the case of revolutionary theories or discoveries – its role is often limited to a "Eureka!"-moment which provides a novel synthesis or solution to an old problem. In contrast to that traditional conceptualization, this paper provides examples from an empirical research project in which college science students suggested three distinct uses of intuition in their scientific practices. First, students did hold out the possibility of intuition providing a novel solution, but with respect to daily practices, not just great achievements. Second, students suggested intuition serves as a heuristic pointer, providing a direction in which to proceed, but leaving the scientist to "do the work" of getting to the solution. Thirdly, students discussed intuition as evidence in its own right in the lab. This paper explores the uses that several students make of intuition in science, and explores how these may result from an interaction between the student's personal epistemology and the scientific disciplinary epistemology that they are learning in the lab and classroom.

When familiarity breeds bad thinking: Belief-bias with reasonable and unreasonable premises

Cécile Saelen (Université du Québec à Montréal)
Hugues Lortie Forgues (Université du Québec à Montréal)
Jocelyn Bélanger (Université du Québec à Montréal)
Walter Schroyens (Université de Montréal)
Henry Markovits (Université du Québec à Montréal)

Many studies have shown that inferential behavior is strongly affected by access to real-life information about premises. However, it is also true that both children and adults can often make logically appropriate inferences that lead to empirically unbelievable conclusions. One way of reconciling these is to suppose that logical instructions allow inhibition of information about premises that would otherwise be retrieved during reasoning. On the basis of this idea, we hypothesized that it should be easier to endorse an empirically false conclusion on the basis of clearly false premises than on the basis of relatively believable premises. An initial study presented adult reasoners with inferences using either prototypically reasonable premises or completely false premises. In both cases, the logical conclusion was empirically false. Consistent with predictions, ratings of the likelihood of the conclusion were higher for completely false premises. These results illustrate the complex relationship between real-world knowledge and logical reasoning.

How can teachers enable students to pose and solve problems using context within and outside mathematics?

Judit Kerekes (City University of New York) Maryann Diglio (City University of New York)

Case study shows Piaget finding that if young children learn using manipulatives, play, and integrated curriculum student recognize relationships more easily. (Caweleti, Gordon, 2003) The pedagogy that made Maryann's classroom fun for the kids and engaged them in their learning was one that placed the student at the center of the teaching/learning experience,

and understood that teachers could contribute best when they act as facilitators and mentors rather than authoritative figures disseminating authoritative content to be memorized and reproduced. The resultant discovery, aha moment, learning moment, made mathematics meaningful to the students. They constructed their new knowledge by doing. They were able to use strategies and models developed through the process as tools for solving new, emerging problems. They were covering Pólya's (1969) steps of problem solving: understanding problems, devising a plan, carrying out the plan, and looking back or reflecting on problems, and they did so effortlessly and effectively. Maryann succeeded with play where so many before her failed with hard work.

#### Imagining the im/possible in autism

Ljiljana Vuletic (University of Toronto) Michel Ferrari (University of Toronto)

Autistic individuals are said to have an impaired imagination. In this paper, we review biographical and autobiographical literature, poetry, fiction, and visual art by autistic individuals and show evidence of the opposite. We demonstrate that the world of autistic children and adults (at least of those who are high functioning) is filled with imaginary beings, objects, places, times, and situations. Therefore, we argue that imagination in autistic individuals is not necessarily impaired. We also argue that this mistaken characterization of autistic individuals has important implications for interventions. We emphasize the importance of studying autistic individuals and their abilities in natural settings and contexts. We suggest that broader indicators of imagination need to be considered when considering imaginative capabilities of autistic individuals. Finally, we argue for the therapeutic use of imaginative abilities of autistic individuals.

10:45-12:00 Loch I SY02 Symposium Session 2

#### Varieties of relational narrative: Differing identities in differing relational practices

Organizer: Luke Moissinac (Texas A&M University-Corpus Christi)

Discussant: Colette Daiute (The Graduate Center CUNY)

It is increasingly being acknowledged that the foundational ontology of human existence is not one of individual abstraction but one of relation (Fishbane, 2001; Gergen, 1996; Slife, 2004), which takes the person as inextricably embedded in relationships with others. Indeed, Piaget advocated a similar perspective when he claimed that "...there are neither individuals as such nor society as such. There are just interindividual relations" (Piaget, 1977, p.210). Such a view accords well with empirical research on early infant intersubjectivity (see Trevarthen & Aitken, 2001 for a review) that locates the impetus for development in the interactive relationships between infants and their principal caregivers. From such relational beginnings, development is continuously situated in relational contexts. Such relational contextuality is even more important for identity development since the 'other' has been taken as intrinsic to the formation of a self-concept since Mead's (1934) seminal formulation.

This symposium uses relational narratives to explore developing identities in differing types of relationships. In doing so, it weds a relational ontology of being with a discursive-narrative epistemology of discovery. Discourse in general, and narrative in particular, is taken to be the medium par excellence for constructing identities in interaction within communities of practice

(Wenger, 1998). The narratives of interest here are not those that present a life-story in full, nor ones that explicate an entire indelible life event. Instead, they are "small" stories that pervade all social intercourse, be that everyday conversation, discussions of varying formality, or interviews. The utility of analyzing such small stories as indexes of identity projects has already been demonstrated previously (e.g., Moissinac & Bamberg, 2005) but the new undertaking here is to explicitly examine how they contribute to the management of identities in a range of developing relationships.

Four communities of practice will be represented in this symposium. First, Bamberg will depict how pre-adolescent boys construct stories of their relations with girls in informal discussions. Next, Korobov and Thorne will present aspects of how emerging adults employ nonchalance as a resource in relating relationship problems. Thirdly, Moissinac's paper interrogates the relationship stories of queer men to display the intersection of queer sexual identity with facets of dominant masculinity. Finally, Medved and Brockmeier demonstrate how identity issues are co-constructed in doctor-patient conversations.

In these papers, we aim to both uncover the intrinsically relational nature of developing identities as well as to evince the efficacy of a discursive-narrative approach in identity development research.

The discursive management of 'hetero-attraction' with pre-adolescent male peers Michael Bamberg (Clark University)

Nonchalance as a narrative resource in emerging adults' stories about romantic relationship problems

Neill Korobov (University of California, Santa Cruz) Avril Thorne (University of California, Santa Cruz)

Paradoxes of male queer identity development: Juxtapositions with dominant masculinity

Luke Moissinac (Texas A&M University-Corpus Christi)
Andrew Smiler (State University of New York, Oswego)

Assessing or interpreting the brain: Conversation between health professionals and neurologically-impaired patients

Maria I Medved (University of Manitoba)
Jens Brockmeier (University of Manitoba)

10:45-12:00 Loch II PS02 Paper Session 2

#### Music development and arts education

Chair: Yeh Hsueh (University of Memphis)

Discussant: Carolyn Hildebrandt (University of Northern Iowa)

Ontogenetic roots of music and language: Play and imitation – a structure-genetic and constructivistic view on vocal development

Stefanie Stadler Elmer (University of Zurich)

Musical behaviour such as vocalising, singing, listening and moving are already present in

early life. At the beginning they are universal and sensorimotor. How do infants and children grow into their oral culture, singing and speaking? Among previous developmental theories we find the idea that musical behaviour follows an invariable and age-related sequence of mastering more and more intervals or `contour schemes' of the occidental music system. Often, we find a hidden ethnocentricity, since, tacitly, occidental musical rules are considered to be universal. Or, it is assumed that musical development is a matter of biology and innate talent. Alternatively, a new theory is presented and substantiated with empirical examples from case studies. It is called 'structure-genetic' because the structures of vocal activities, their genesis and their adaptation to a culture are the focus of research. It is assumed that a child's vocal development is a highly adaptive and constructive process that starts as joyful vocal communication in infancy with caregivers. Theoretical elements, principles and hypotheses about the development are outlined. Emphasis is put on growing control and awareness of own actions and thoughts, and imitation and play. Microgenetic analyses of structural changes illustrate children's creative and adaptive processes towards socio-cultural conventions.

Dalcroze, the body, movement, and musicality

Jay A Seitz (City University of New York)

What forms the basis of musical expressivity? The Swiss composer and music educator, Emile Jaques-Dalcroze, believed that bodily processes, rhythm, and physical motion were the basis of musical expressivity and music pedagogy. We can rephrase his emphasis on the synergy between bodily and musical processes into a question: How does the body contribute to thought and musical understanding, in particular? We review a large body of research and theory on the bodily and brain basis of musical expression and find ample support for his seminal views. It thus appears that Dalcroze was onto something essential to musical thought and expression.

Differentiations and integrations. The novel knowledge in the child's musical composition

Leda de A Maffioletti (Federal University of Rio Grande do Sul)

This study investigates the formation of new knowledge in Child Musical Composition, linking advancements in the field to the process of reflecting abstraction. The work is theoretically based on Jean Piaget's Genetic Epistemology and employs the clinical method as its research methodology. The analysis of compositions follows the psychological fundaments of Michael Imberty's musical semantics. Empirical data include 76 musical compositions by 70 subjects of 6 to 12 years of age – all students of a private school in the city of Porto Alegre, Brazil. Data were collected during one school semester and registered as videoclips. The study includes explorations, constructions and re-constructions of musical ideas as a "real-time composition". Results demonstrate that the development of compositions is characterized by gradual construction of a whole view. Such view is allowed by the formation of interdependence and connections that change the ways to produce knowledge, thus allowing new articulations within the composition's macrostructure. The development of musical composition implies forms of learning that underpin symbolic exchanges in music.

The arts in support of children's development: Changing meanings with changing theories

Kathleen A Camara (Tufts University)
W George Scarlett (Tufts University)
Anne S Perkins (Maryland Institute College of Art)
Masami Stampf (Conservatory Lab Charter School)

The notion that the arts can provide a powerful support for children's development is not new. What is new are the meanings giving to this notion. During the hey-day of progressive education, the notion meant instilling in children a creative spirit. During the cognitive, Piagetian revolution in the late 1950's, it meant providing arts programs in parallel to and subordinate to academics, the core curriculum, and a focus on logic and reasoning. This paper explores more positive and powerful meanings that derive from theories of multiple intelligences and from developmental systems theories. In this paper, we demonstrate the power of these newer ways of thinking about the arts and children's development and for promoting reform in schools – both by citing the literature and by presenting case materials from research conducted in schools in U.S., Ireland and England.

12:00-1:30 Lunch

1:30-2:45 Ches II PLO2 Plenary Session 2 – Murray Forman

#### Hip-hop culture, youth creativity, and the generational crossroads

Murray Forman (Northeastern University)

Hip-hop and its composite forms (encompassing rapping, DJing, graffiti, and b-boying) have evolved into a global cultural phenomenon and a multi-billion dollar industry over a thirty-year existence. Generally associated with creative youth expression, hip-hop has long been a force in joyful leisure practices but it has also subsequently emerged as a lingua franca in the expression of racial identity, spatial politics, and cultural values. Young people around the world have mobilized hip-hop aesthetics and sensibilities to amplify the crises of class and racial antagonism while articulating defiance against informal discriminatory practices and organized systems of state repression.

The creative characteristics associated with early hip-hop include genius innovation in the face of adversity and an innate capacity among primarily black and Latino urban youth to radically subvert familiar technologies, transforming them into tools of artistic production. Through hip-hop, the detritus of American popular culture has been re-inscribed and reassigned in the realm of cultural meaning. In the process, hip-hop's most creative minds have actively embarked on a mission to revise dominant narratives about contemporary urban existence, even as they have altered the sonic and visual environment through which we all circulate.

A dilemma emerges, however, as hip-hop enters its fourth decade and the notion of hip-hop "youth" begins to unravel. Hip-hop is no longer solely the purview of a young minority contingent but is, increasingly, an important element in the lives of a diverse and aging population. The result of this change is that, not only is there a generational rift between hip-hop youth and adults associated with the Civil Rights era, but there is also now a persistent and undeniable dissonance that is evident between youth and their hip-hop-identified parents. Such developments have implications for the scholarly study of hip-hop but also for the ways in which hip-hop is situated within the traditional political party system and other conventional social settings.

In this presentation, these and other related factors will be taken up and analyzed within a series of questions, including: What are the dominant identities that are conveyed in and through hip-hop today?; What are the stakes of adopting hip-hop's expressive forms under current conditions?; How has the influence of global corporate power and the commercial culture industries affected the creative character of contemporary hip-hop?; What, if any, are hip-hop's political possibilities?; How does a growing generational dissonance within hip-hop culture impact its discourses and practices? What does it mean to embark on something called "hip-hop studies?"

2:45-3:00 Break

3:00-4:30 Ches II ISO1 Invited Symposium 1

#### Art, self & culture

Starting from the premise that art constitutes a production of meaning, participants in this invited symposium explore fundamental questions regarding the relationship between collective culture and personal identity, convention and creativity, form and content. Brent Wilson examines the functions and aesthetic properties of adult-child and child-child collaborative visual productions. Blake Lloyd explores the functions of music videos in the cognitive and identity development of adolescents. Joe Becker uses the idea of "form"—in artistic activity and in Piaget's constructivism—to brige our understanding of knowledge and consciousness.

Chair/Discussant: Peter Pufall (Smith College)

Children's and adults' collaborative images: Issues of power and pedagogy
Brent Wilson (Penn State)

A principal tenant of modernism was that each individual artist, working in isolation, was obliged to create an endless succession of innovative artworks that departed radically from previous productions. Artists, educators, psychologists, and art historians believed that children were artists whose artistic creativity must be protected from adult and societal contamination. In our postmodern time, however, notions of originality, creativity, and even "contamination" have changed. Artists willingly collaborate and unabashedly appropriate previous styles and artworks. Every text and artwork is an assumed amalgam—a hypertext, a collection, a recombination, an extension of previous works. Now some who study children's visual culture are reassessing its character. Paradigmatic examples of modernist children's art, we realize, were produced by adults as much as by children. Art teachers not infrequently directed—even coerced—children to produce artifacts that had the expressive look of "child art." Now it seems reasonable to ask, "is there actually such a thing as child art?" and also to wonder "what is the 'real' visual culture of childhood?" When children make images free from teacher influence, they usually work from comics, cartoons, and illustrations. Acting alone or in groups, rather than being little nonconformists, kids modify existing images to produce their own knock-off versions of popular visual culture. Rather than trying to be original, kids struggle to master the conventions of contemporary visual culture. At the same time, in classrooms, students and teachers continue to co-produce images—but to whom should we attribute these classroom artifacts, to adults or children? Perhaps it is the rare setting in which adults and kids collaboratively produce visual cultural artifacts attributable primarily to young people. It is adult/student and kid/kid image-based collaborations and their pedagogical character that I wish to explore. I will present a taxonomy of visual cultural collaborative possibilities and analyze their aesthetic character and pedagogical consequences. There are: (1) collaborations in which kids organize themselves to produce things such as comic books; (2) play-like spontaneous collaborations in which kids draw on a blackboard or wall; (3) graphic dialogues and conversations in which kids together, or kids and adults, converse through images; (4) there are game-like extended dialogues or serial collaborations in which coequals improvise as they respond to alternating sequences of individually produced images; (5) there are school art collaborations where kids alter the course of a teacher proposed project—and this is only a small sampling of types. These collaborative visual cultural produc-

tions are distinguishable from students' mere responses to teachers' classroom assignments. An understanding of children's visual culture also requires attention to variables and issues such as power relationships, forms of contribution, divisions of labor, types of control, matters of ownership and attribution, instigation and redirection, originality and creativity, process and product, function and purpose, and distinctions between pedagogical, social, political, cultural, and aesthetic interests and interpretations. To know the meaning of children's images, we must understand the conditions, ranging from collaborative to coercive, under which they were made.

Creating the self: Music video, socio-cognitive schema and positive developmental outcomes

Blake Te'Neil Lloyd (Penn State Delaware County)

Music videos can be defined as pictorial representations of life experiences, conveyed in video images on television in a musical format. They are products of the imaginations of the videos' artists, directors, and producers. Literature on media influence generally devotes attention to the negative aspects associated with adolescent exposure to this type of media. Most researchers have concluded that adolescents 1) adopt the limited roles and often negative identities depicted or 2) use these experiences for entertainment (e.g., leisure) purposes only. In adopting either of these perspectives, I propose that two important aspects of adolescent development are minimized. First, they fail to adequately consider the newly acquired formal operational capacities associated with this developmental point in the life span – the capacity to reason, cognitively explore possibilities, and make meaning of their environments. Second, and equally important, they fail to allow consideration of the process of "trying on" of identities – a salient task of identity formation. The adolescent identity, media, and socio-cognitive schema (AIMSS) framework seeks to explain how adolescents cognitively process mass media images to create, enhance, and reinforce positive concepts of self. Data will be presented to support this theoretical position.

Understanding form: Artistic activity, Piagetian theory, and the nature of phenomenal experience

Joe Becker (University of Illinois at Chicago)

Drawing more on our conceptions of science than those of art, focused on knowledge rather than meaning, Piagetian discourse has come to emphasize objective truth disconnected from subjective experience. It is in danger, at least, of becoming complicit with the way conceptions of knowledge are split off from a concern with phenomenal experience in much of the current scientific study of cognition. Art stands as antithesis to this split. Through the similarity in the idea of form in artistic activity and in Piaget's account of the construction of knowledge, art offers support to constructivist theory where the latter has drawn least attention and been least developed-conceptualizing the intimate connection between knowledge and consciousness. Foregrounding suggestions from Piagetian theory concerning the nature of phenomenal experience, this paper conceives consciousness in terms of form and form-content relations. This approach emphasizes the way in which pre-existing cognitive forms and newly emergent forms relate to one another providing a chain from the most abstract thought to the most basic level of phenomenal experience. This approach implies that we would do well to pursue Piaget's understanding of the role of form in acts of knowing to the point where form is accepted into the ontology of science in such a way as to provide a basis for a non-reductionist

scientific account of subjective experience.

3:00-4:30 Ches III SY03 Symposium Session 3

#### Developmental and clinical perspectives on imaginary companions

Organizer: Marjorie Taylor (University of Oregon)

Discussant: Michele Root-Bernstein (Michigan State University)

The creation of an imaginary companion, either an invisible entity or a special toy that becomes a regular part of the child's social world, is common in young children (40-60% have imaginary companions), but is not well understood. In some studies, having an imaginary companion has been associated with positive characteristics, whereas other studies report no differences or negative characteristics for children with imaginary companions (for a review see Taylor, 1999). The goal of this symposium is to present recent research investigating the social and cognitive correlates of having an imaginary companion from the perspectives of both developmental and clinical psychology. In addition to investigating the relations between having an imaginary companion (or a particular type of imaginary companion) and creativity, sociability, inhibitory control, behavior problems, and dissociation, the presenters will provide new information about the best ways to identify children who have imaginary companions and elicit information about them.

The first presentation provides an overview of the phenomenon and reports the results of research examining the relation between having an imaginary companion and creative potential. Children with imaginary companions scored higher on two measures of creativity than children without them. In presentation 2 the relation between general sociability and play with imaginary companions was investigated. Children with invisible friends, but not children with personified objects were shown to score higher on sociability than children without any type of imaginary companion. In presentation 3, children who described their imaginary companions as being relatively independent and autonomous were rated as having significantly higher social skills and significantly fewer internalizing and externalizing problem behaviors than children without imaginary companions. In presentation 4, the characteristics of imaginary companions created by a nonclinical sample of children and those created by traumatized children with dissociative symptoms were examined. In comparison with the dissociative children, the nonclinical children were more likely to report feeling in control over these experiences, pleasure in the interactions, awareness that they were pretend, and were less likely to be involved in interacting with the imaginary companions when feeling anger.

The results of these studies raise many questions about the form of imaginary companions (invisible friends vs. personified objects), the content of the fantasy (e.g., the extent that the child experiences the imaginary companion as autonomous), and the diverse functions this type of pretend play serves in the lives of children from different environments.

Imaginary companions and creative potential Eva Hoff (Lund University)

Individual differences in children's sociability and their play with imaginary companions

Alison B Shawber (University of Oregon) Marjorie Taylor (University of Oregon)

Inhibitory control and social skills of children with imaginary companions Stephanie M Carlson (University of Washington)

A comparison of imaginary companions in normal and maltreated children Joyanna Silberg (Sheppard Pratt Health System)

3:00-4:30 Loch I PSO3 Paper Session 3

#### Language and communication

Chair: Michael Bamberg (Clark University)

A mental image is worth a thousand verbs: Imageability predicts verb learning

Weiyi Ma (University of Delaware)

Colleen McDonough (Neumann College)

Robert Lannon (Temple University)

Roberta Golinkoff (University of Delaware)

Kathy Hirsh-Pasek (Temple University)

Twila Tardif (University of Michigan)

Why are verbs much harder to learn than nouns in English and in many other languages, but relatively easy to learn in Chinese? The answer might lay in imageability, or the capability of a word to arouse a mental image. Research suggests that words with higher imageability are learned earlier than words with lower imageability, regardless of their grammatical class. Therefore, we hypothesize that the universal noun-advantage in early vocabulary is due to the high imageability of nouns relative to verbs. Similarly, the relative verb-advantage in early Chinese vocabulary is due to the fact that Chinese verbs tend to be highly imageable. The current study reveals two significant results. First, imageability ratings are a reliable predictor of age of acquisition across languages when we used an established vocabulary instrument (the CDI) as opposed to adult recollections about when they learned a word. Second, Chinese children's verbs received higher imageability ratings than English children's verbs while Chinese and English children's nouns did not differ in imageability ratings. It appears that high imageability boosts verb learning by simplifying the process of action segmentation and relation abstraction.

Does the owl fly out of the tree or leave the tree flying?: The development and plasticity of lexicalization biases

Christina Infiesta (University of Delaware)

Rachel Pulverman (University of Michigan)

Each language has its own conflation patterns that govern the way words, especially verbs, are used. Previous research has shown that speakers of each language form lexicalization biases due to repeated exposure and use of their language. However, it appears as though adults, with sufficient exposure to a second language, can adopt the new patterns of that language regardless of the biases of the first language. This study asks when and how English

learners of Spanish are able to adopt the motion expression patterns of their second language and use them in language production. In addition, a direct comparison is made with the oral productions of native Spanish children (mean age = 3;9). A comparison is also made between these two groups and native older Spanish speaking children (mean age = 12;2) in order to see how close each group comes to using the patterns of developed native language. Preliminary results show that, for learners of Spanish, increased exposure and experience with the language increases the number of path expressions produced. Additionally, by three years of age, children, like the advanced Spanish learners, already have almost complete mastery of the lexical patterns of their language.

This experiment is killing me! Children's comprehension of verb metaphor

Jaclyn Pilette (University of Delaware)
Julia Campbell (University of Delaware)
Roberta M Golinkoff (University of Delaware)
Amanda Brandone (University of Michigan)
Rebecca Seston (University of Delaware)

Metaphor holds an important place in human language. We are constantly and unconsciously employing metaphors to assist us in expressing our intentions. Children need to understand verbal metaphors in order to participate in conversations (especially with adults) and to understand text. This study is among the first of its kind to examine how children explain novel verbal metaphors. We hypothesized that skill in verbal metaphor would increase with age and that subjects would find psychological verbal metaphors more difficult to explain than physical verbal metaphors. English-speaking 6-, 8-, and 10-year-olds as well as college students were the participants. Subjects were read 24 short stories that ended in a metaphor. Eight of these were verbal metaphors. The stories were comprised of one or two sentences that preceded the metaphor in order to provide context. Preliminary results support our hypotheses. First, metaphor comprehension increased with age and second, psychological metaphors were uniformly more difficult to interpret than physical metaphors across all age groups. The finding that verbal metaphor comprehension shows a developmental trend is a significant and new result. Metaphors infuse much of our everyday language (Lakoff & Johnson, 1980), yet detecting and appreciating the relations implied in verbal metaphors proves a difficult task.

"Zorbs cloom": The influence of generic language on verb-learning

Amanda C Brandone (University of Michigan) Thomas Deptula (University of Delaware)

Research on generics (e.g., Birds fly) has focused on the role of generic noun phrases in organizing categorical knowledge and guiding inferences about members of a noun category (e.g., Birds). However, research has neglected to investigate the influence of generics on organizing predicate information accompanying generic noun phrases (e.g., fly). The current experiment examined whether generic phrases play a role in helping children realize that verbs, like nouns, can apply to more than a single instance of a category. In a book reading task, 2- and 2 1/2-year-olds were introduced to a novel verb using either generic or nongeneric language. Children were tested on their ability to map and extend the novel verb. Results revealed an interaction between age group and language type: Whereas 2-year-olds performed equally in the generic and nongeneric language conditions, 2 1/2-year-olds performed significantly better in the nongeneric condition. Findings suggest that generics may

not be used as a general didactic tool; rather, generics may convey information and guide inferences specifically about noun categories. For children sensitive to the linguistic distinction between and categorical implications of generic versus nongeneric noun phrases, generics may in fact interfere with the task of verb learning.

Vacuuming with my mouth? Children's ability to extend verbs

Rebecca Seston (University of Delaware)
Jaclyn Pilette (University of Delaware)
Julia Campbell (University of Delaware)
Nicole Tomlinson (University of Delaware)
Kathy Hirsh-Pasek (Temple University)

Children have a difficult time learning verbs and once they learn them, they are reluctant to extend them to new situations. The present study asked if 6- and 10-year-olds are able to extend common verbs to novel situations. Subjects were read eight unusual extensions of common verbs. Stimulus verbs require an instrument to perform their function. Half of the verbs use an obligatory instrument that shares the name of the action it performs (e.g., to vacuum), while the other half do not have specific instruments (e.g., to write). Two important results emerged. First, there is a developmental trend such that 6-year-olds are less likely than 10-year-olds to correctly extend the verbs. Second, children found it more difficult to extend the verbs that do not include a specific instrument than the verbs that do. These findings are significant as they reveal how difficult verb extension is, even for older children. Knowing how to extend familiar verbs - a true test of verb learning - is a more difficult and delayed task than previously imagined.

The effects of mothers' regulatory speech on children's participation in the task Zilda Fidalgo (Instituto Superior de Psicologia Aplicada)

We examined the effects of mothers' scaffolding discourse on children's participation in problem solving tasks, involving fifty mother-child (3-5) dyads. Mothers' discourse was coded for the level of abbreviation and referential perspective and children's participation as directly, indirectly and self-regulated. A negative correlation between low levels of abbreviation, referential perspective and children's level of participation was found, but any significant correlation between higher levels of abbreviation and referential perspective and children's self-regulation While more regulatory categories of mothers' speech are clearly an obstacle to children's autonomous participation, the exposition to higher cognitive demands and conceptual expressions, is open to discussion.

3:00-4:30 Loch II PSO4 Paper Session 4

#### Arts education—drawing

Chair: Julia Penn Shaw (SUNY Empire State College)

Discussant: Saba Ayman-Nolley (Northeastern Illinois University)

A survey of children, teachers and parents on children's drawing experience at home and at school

Richard P Jolley (Staffordshire University) Esther Burkitt (Open University) Sarah E Rose (Staffordshire University)

Although much research has been carried out into the drawings children produce few studies have asked children to comment upon their experiences of drawing. Similarly, little is known about teachers' and parents' perspectives on children's drawing activities and how these shape children's drawing experience. This study aims to address this gap in the literature by surveying children, their parents and their teachers to establish how a wide range of factors (e.g., attitudes, art environment and cultural art values) are influencing children's drawing behaviour and its development. Two hundred and seventy children aged 5 to 14 years participated in a semi-structured interview after being randomly selected within nine age groups from over 25 schools. The principle art teacher for each child was also interviewed and the child's parents completed the parent survey; all interviews and surveys included both open and closed responses which were analysed quantitatively and qualitatively. This project is still underway, but it is anticipated that the results of the study will provide a comprehensive and systematic investigation into children's drawing behaviour at school and home. In particular, it is hoped that the results will suggest why drawing activity declines around pre-adolescence and what can be done to arrest this decline.

Of tadpoles and belly buttons: The effect of suggestion on preschoolers' person drawings

Carol A Coté (Rutgers, The State University of New Jersey)

A preschooler's 'tadpole' person drawing with its characteristic lack of a torso may exemplify the attention limitations of these young children. If only those few features which are most salient to the child are depicted, then a torso may simply not be important. In this study 73 preschoolers were asked to draw a person, then a person with a belly button. This task should make the torso more salient and perhaps even necessary. The tadpole drawers, however, did not change their figure type to accommodate the new feature. Instead they very economically included the belly button either inside the tadpole circle or just below the circle. The children were also asked to place a belly button on pre-drawn figures of a tadpole and a person with a torso. Interestingly, many did not respond to the pre-drawn tadpole, believed to have been drawn by another child, in the same way as their own drawing. Discussion focuses on how these findings may reflect on the meaning of the figure drawing for the child and how drawings made by another child are viewed. The findings also illustrate limits in attention and memory for features, and the consistent midline orientation of the belly button feature.

A pedagogy of the big questions of life: College students discover themselves as meaning makers through art education that transforms and liberates

Kimberly Sanborn (Northeastern Illinois University)

A constructivist understanding of human development establishes an important role for educators: to provide learning opportunities that allow students to build confidence in and raise awareness of themselves as meaning makers. This study examines college student experience of a studio art class course that involves exploration of their own lives, thoughts and feelings as they confront life's big questions (Who am I? What does it mean to be human?) through

artistic activity. Twenty–five students enrolled in an introductory ceramics course participated in this teacher research. Data from student writings, taped interviews, and the art produced in the course illustrates their achievement of liberation and transformation, representing a confluence of the deepest purposes of education and art. With this particular medium and student population, such achievement depends on: three thoughtfully designed projects; encouraging student introspection; and the classroom community that results from the public nature of studio work and sustained peer interaction. Comfort in community enables students' openness and the courage to confront the big questions of life through their art. In this way, they develop their understanding of themselves and come to appreciate their own lives as sources of meaning.

Artistic temperaments in children? The quest for key indicators

David Pariser (Concordia University)
Paul Hastings (Concordia University)
Anna Kindler (University of British Columbia)
Axel van den Berg (McGill University)

Modern psychologists and Renaissance art historians have all speculated about the mystery of the artistic temperament. In this talk, we will consider whether there is linkage among the physiology, temperament, and the artistic ability of young children (between the ages of 2 and 9). Ninety seven children (52 boys, 45 girls) generated five drawings each: Children's physiological responses were recorded before and during drawing activity. Children's temperaments were established based on a standardized parental questionnaire. The children's drawings were evaluated by 10 art-trained adult judges. A "temperamental" factor, namely being Withdrawn, seems a better predictor for girls aesthetic endeavors than for boys. Is it possible that an "artistic temperament" exists, and that it is more likely to be found among women than men? Demonstrating the existence of such a temperament among women would shed more critical light on the under-representation of women in the artistic Pantheon. Conversely, might there be gender-specific profiles that suggest the shy, reclusive girl and the calm, outgoing boy are most likely to produce work that is creative and aesthetically pleasing? Such findings would fly in the face of the Romantic stereotype of the transgressive and turbulent (male) artist as the likely originator of significant art.

#### Temperament and aesthetics

Jessica E Kieras (University of Oregon) Michael I Posner (University of Oregon) Mary K Rothbart (University of Oregon)

Although aesthetic activities appear to be a part of all human cultures, there are individuals differences in the extent to which people are interested in art-related activities. If these individual differences are related to temperament (relatively stable, early appearing individual differences), than it may be possible to identify children who might benefit most from participation in the arts at an early age. The current study investigated temperament factors as predictors of individual differences in aesthetic interest in college students, who completed a self-report questionnaire. The Adult Temperament Questionnaire (ATQ) was used to assess four temperament factors: Positive Affect, Negative Affect, Effortful Control and Orienting Sensitivity. Aesthetic interest was assessed by adding items that assessed interest in music, visual arts, theater, and ceramics. A multiple regression using subscales of the temperament

factors predicted 39% of the variance in aesthetic interest. Results will be discussed in terms of how participation in art-related activities might be especially beneficial for children with certain temperamental qualities.

4:30-4:45 Break

4:45-5:45 Ches I PT01 Poster Session 1

#### Poster Session 1: Cognitive / Social

Posters will be available for viewing all day. Authors will be present from 4:45-5:45

1. Clarifying the relation between bullying and social cognition

Laura Failows (Simon Fraser University)

2. The impact of audience type on the communication of emotional information in children's drawings

Esther Burkitt (The Open University, UK)

3. Do the ends justify the means? Variations in sibling teachers' responses to learner errors

Holly E Recchia (Concordia University)

Nina Howe (Concordia University)

Stephanie Alexander (Concordia University)

4. Shake your rattle down to the ground: Infants' exploration of objects relative to surface

James D Morgante (University of Massachusetts - Amherst)

Rachel Keen (University of Massachusetts - Amherst)

5. Does it matter that nature's "real"? A plasma window's effects on looking behavior and heart rate recovery from low level stress

Peter Kahn (University of Washington)

Nathan G Freier (University of Washington)

Rachel L Severson (University of Washington)

Jennifer Hagman (University of Washington)

Brian Gill (Seattle Pacific University)

Batya Friedman (University of Washington)

Erika N Feldman (University of Washington)

Sybil Carrere (University of Washington)

Anna Stolyar (University of Washington)

6. The role of input in children's acquisition of mental state verbs and a theory of mind

Alice Ann Howard (University of Connecticut)

Letitia Naigles (University of Connecticut)

Lara Mayeux (University of Oklahoma)

7. Children's evaluations of parental roles in the home and the workforce

Stefanie Sinno (University of Maryland)

Melanie Killen (University of Maryland)

8. An investigation of sex differences in emotion based decision making

Warren D Anderson (Temple University)

Anthony Steven Dick (Temple University)

Willis F Overton (Temple University)

The developmental relations between theory of mind and gender-typed development in preschoolers

Michael R Miller (University of Victoria)

10. Patterns of children's social thought and quality of attachment relationships

Manuela Veríssimo (UIPCDE, ISPA)

António J Santos (UIPCDE, ISPA)

Ligia Monteiro (UIPCDE, ISPA)

11. Developmental vulnerability to irrational gambling judgments: A dual process account

Eric Amsel (Weber State University)

Paul Klaczynski (National Science Foundation)

12. Assessing children's drawing ability

Marc H Bornstein (National Institute of Child Health and Human Development)

Martha E Arterberry (Gettysburg College)

Darlene A Kertes (National Institutes of Health)

Joan Suwalsky (National Institute of Child Health and Human Development)

Paola Venuti (Università di Trento)

13. A comparison of preschoolers' explanations of their own actions in two different representational contexts

Cristina M Atance (University of Ottawa)

Jennifer L Metcalf (University of Ottawa)

14. Creative representations in science learning: Examining variations of categorization in a concept sorting task

Hiroshi Maeda (Saitama Prefectural University)

15. Are photographs snapshots or works of art?

Deborah R Siegel (University of California, Santa Cruz)

Lisa E Szechter (Tulane University)

 Hip hop and popular music as vehicles for psychological development and social change

Kim Passamonte (North Carolina Central University)

Glenn Foster (North Carolina Central University)

Cinawendela Nahimana (Gwamaziima Charter School)

Jonathan Livingston (North Carolina Central University)

17. Cultural variations in children's drawings of the elderly

Saba Ayman-Nolley (Northeastern Illinois University) Sonya Delgado (Northeastern Illinois University) Lisa Krause (Northeastern Illinois University) Jennifer Baker (Northeastern Illinois University)

18. Motivational orientations and their relations to identity status in adolescence

Theo Elfers (Simon Fraser University)
Tobias Krettenauer (Humboldt University at Berlin)

19. The aesthetic value of thinness in preadolescents from two different cultural backgrounds

Irene Solbes (Universidad Complutense de Madrid) Ileana Enesco (Universidad Complutense de Madrid) Carolina Callejas (Universidad Autónoma de Madrid)

20. Assessment of children's personality development through narrative methods

Giselle B Esquivel (Fordham University) Kimberly Banks (Fordham University) Staci Bloom (Fordham University)

6:00-7:00 Ches II ART Artists' Panel

#### Artists' Panel: Creative processes across the arts

Moderator: Constance Milbrath

Artists: Elizabeth Arnold (University of Maryland)

Maren Hassinger (Maryland Institute College of Art)

Gerald Levinson (Swarthmore College)

Three highly regarded artists from the fields of literary, visual, and musical arts will comment on their artistic development from their first identification as an artist, on the sources of inspiration for their artistic ideas, and on the creative process that they follow in bringing an idea into fruition.

Elizabeth Arnold teaches poetry at the University of Maryland. Her first book of poems, *The Reef*, was nominated for the Boston Book Review's Bingham Poetry Prize in 2000. In 2002 she won a Whiting Writers Award, conferred by the Mrs. Giles Whiting Foundation in New York. The awards are given annually to only ten emerging writers in fiction, nonfiction, poetry and plays. She has received a Lannan Foundation-sponsored fellowship from the Fine Arts Work Center, a Yaddo fellowship, a Bread Loaf scholarship, a Friends of Writers tuition grant, and, most recently, a Bunting fellowship from the Radcliffe Institute for Advanced Study at Harvard. Her poems and essays have appeared in Slate, TriQuarterly, Chicago Review, Poetry Daily, Kalliope, Sagetrieb, and Caroline Quarterly. She edited and wrote the afterword for the first edition of Mina Loy's novel, *Insel*, which was published by Black Sparrow Press in 1991. Arnold has taught at the University of Chicago and Warren Wilson College and recently joined the faculty of the Creative Writing Program at the University of Maryland.

Maren Hassinger is Graduate Director at the Maryland Institute College of Art and has been Director of the Rinehart School of Sculpture at Maryland Institute College of Art, one

of the oldest programs of its type in America. A graduate of Bennington and UCLA, she has mounted many solo exhibitions and participated in more than 120 group shows. Her work is included in more than 34 catalogs and in the public collections of AT&T, the Pittsburgh Airport as well as in outdoor areas such as Grant Park, Chicago. The "Anonymous Was A Woman" and International Association of Art Critics awards recipient has performed at the Museum of Modern Art, been reviewed extensively in Art in America, The New York Times, Sculpture Magazine, the Baltimore Sun, and ART news among others. She has received grants from the Gottlieb Foundation, Joan Mitchell Foundation, and the National Endowment for the Arts and been artist in residence at ASAP, the Nature Conservancy/Andy Warhol Estate, the Printmaking Workshop and Studio Museum in Harlem. The Rinehart School of Sculpture is at the center of innovation in this evolving medium, where students work in a wide range of mediums and approaches – from stone-carving and metals casting to installations and time-based art such as video and performance.

Gerald Levinson is the Jane Lang Professor of Music at Swarthmore College. He has been increasingly recognized as one of the major composers of his generation. His teachers included George Crumb, Richard Wernick, and George Rochberg at the University of Pennsylvania; Ralph Shapey at the University of Chicago; and French composer Olivier Messiaen at the Paris Conservatory. Levinson has received many awards for his music, including the Goddard Lieberson Fellowship and the Music Award (for lifetime achievement) from the American Academy of Arts and Letters, two N.E.A. Fellowships, and the Prix International Arthur Honegger de Composition Musicale. He spent two years in Bali as a Henry Luce Foundation Scholar and as a Guggenheim Fellow. His works have been widely performed in the US and Europe, by such orchestras as the Philadelphia Orchestra and the Los Angeles Philharmonic. Recordings are available on CRI, Laurel, Albany, and CRS labels. His newest work, Toward Light, for organ and orchestra, was recently premiered by the Philadelphia Orchestra to inaugurate the new organ in its concert hall.

7:00-8:00 Gallery REC1 President's Reception

President's Reception (sponsored by Lawrence Erlbaum Associates, Publishers)

9:00-10:30 Ches II ISO2 Invited Session 2

#### Why arts education? Research evidence about processes and outcomes

Chair/Discussant: K Ann Renninger

The RAND report, Gifts of the Muse, calls for developing an analytical framework that explains the benefits of arts education and goes beyond simply saying that arts education is distinctive (McCarthy, Ondaatje, Zakaras, & Brooks, 2004). Research on arts education and arts programs have begun to describe their potential for supporting problem solving and learning, or learning how to learn, as well as "the habits of mind, competencies, and personal dispositions inherent to arts learning" (Deasey, 2000, p. 1-2). Current issues in this research concern identification of relevant indicators for study, the nature and scope of participation, and to what "arts" is understood to refer (exposure and/or talent development).

This interactive symposium is designed to engage its participants in thinking seriously about the impact of arts education. It will focus on findings from current research projects in order to consider answers to three questions:

- a. What are the salient characteristics of arts education as an environment for learning- in and/or out of school?
- b. Who participates and how do they gain access? What impact do the arts have on children's learning?
- c. What is unique about the arts as a context for learning?

The symposium will open with presentations of answers based on research findings and will then be opened for discussion of symposium questions by symposium participants and the audience. K. Ann Renninger will chair and moderate this session.

Hidden within arts: Problem-seeking and solving

Shirley Brice Heath (Brown University)

Reported here are two multi-year studies of intensive immersion of primary-level children in creating arts-based learning environments for their schools. (Note that both schools are located in England where the government has a national policy of sponsorship for partnering schools in rejuvenating areas with creative opportunities.) The twist in the two programs—one centered on visual and language arts and the other on dramatic arts—that sets them outside regular arts lessons was the public role of the projects undertaken by the children. As planners, managers, critics, and spokespersons for both their arts and the environments needed for their creative work, the children came to identify themselves as figures with power and voice within the school culture and for the school within the community. The children, living in severely economically depressed and isolated geographic regions and often marked as "learning disabled," exhibited gains in attentional focus and cognitive, linguistic, and mathematical achievement. The process of their changes and their roles in shaping their learning environments point to some previously unrecognized elements of educational entrepreneurship channeled through the arts.

Ecologies of opportunity: The arts in comprehensive high schools

Dennie Wolf (Brown University)

This paper presents data from an in-depth study of the role that arts activities play in the lives of students attending comprehensive high schools. In particular, the data and discussion focus on the ways in which the arts are often, though not categorically, "ecologies of opportunity" providing access to learning expectations and experiences that are rare for adolescents. These include the expectation to produce, not just to consume, knowledge; to develop a critical stance on the process of education, and to transfer learning to spaces outside school. In addition, the paper raises questions about the traditional ways of thinking about the outcomes of arts education and traditional methods for capturing the effects of sustained engagement in the arts.

"Don't be shy, sing, stand tall...stand tall means you can do it": Self-efficacy and learning in an out of school choral training program

Sara Posey (Swarthmore College) K Ann Renninger (Swarthmore College)

Findings are reported from a cross-sectional mixed methods study of 7-18 year-old participants' feelings of self-efficacy and learning in a rigorous out-of-school choral training program. The directors provide opportunities for participants to develop an appreciation of music, the ability to read music, and a sense of their own possibilities (in music, as part of a community, as learners). Consistent with studies of (a) arts programs as supports for student learning, (b) powerful learning environments, and (c) prodigious talent development, the choral training program supports participants who would traditionally be considered "at-risk" to sustain and deepen interest for a variety of music, learn music-related knowledge and skills, and develop cognitively, socially and emotionally. Developmentally, participants' feelings of self-efficacy in working with rigorous musical content appears to fluctuate due to their representational redescription of themselves as participants and musicians.

9:00-10:30 Ches III SY04 Sympo

Symposium Session 4

#### Executive functioning & emotion regulation

Organizer: Dana Liebermann (University of Victoria)

Discussant: Ulrich Müller (University of Victoria)

Increasingly, attention is being given to the concept of emotional regulation in developmental psychology. The study of emotion regulation, however, is complicated by difficulties in differentiating an emotion from the regulation of that emotion. What makes emotion regulation such an attractive construct to study is its ability to account for how and why emotions organize or facilitate other psychological processes such as Executive Functioning (EF; Cole et al., 2004). Although emotional control can be differentiated from EF, it is believed that emotional control is influenced by and, in turn, influences the development of EF. The three presentations in this symposium are examples of research that attempts to clarify how and why EF and emotion regulation are related.

The regulation of attention and its relationship with emotion regulation is an example of current interest in investigating linkages between EF and emotion regulation. The executive attention network is seen to underlie temperamental effortful control, the ability to suppress a dominant response in favor of a subdominant response (Rothbart & Rueda, 2005). The first presentation will present evidence supporting a link between the functioning of the executive

attention network and children's regulation of the expression of emotion.

Researchers have suggested that the cognitive changes allowing preschoolers to integrate multiple perspectives are the same changes required for development of EF (Prencipe & Zelazo, 2005). The second presentation examines the role of perspective on preschoolers' affective decision making and demonstrates how developments in deliberate problem-solving influence self-regulation.

The third and final presentation of the symposium will describe a study that investigates the relationships between EF, social cognition and emotion regulation in 3-, 4-, and 5-year-olds. By assessing these three constructs, their developmental trajectories, their structural relationships and individual differences on each construct can be examined.

These presentations unite research examining both the cognitive and social interaction aspects of emotion regulation, providing clarification regarding the relationship between EF and the regulation of emotions.

Affective decision making for self and other

Angela Prencipe (University of Toronto)
Philip David Zelazo (University of Toronto)

Executive attention and the regulation of affect displays

Jessica E Kieras (University of Oregon)
Jennifer Simonds (University of Oregon)
M Rosario Rueda (University of Granada)
Mary K Rothbart (University of Oregon)

Executive functioning, social cognition & emotion regulation in preschoolers

Gerry Giesbrecht (University of Victoria) Dana Liebermann (University of Victoria)

9:00-10:30 Loch I PS05 Paper Session 5

#### Cross-cultural issues in social relations

Chair: Susan Golbeck (Rutgers University)

Discussant: Kristin Neff (University of Texas at Austin)

Rethinking measures of Cultural Continuity within Indigenous communities: Will what works on the coast work on the plains? (Kachimaa Mawiin "Maybe for Sure")

Christopher E Lalonde (University of Victoria)
Michael J Chandler (University of British Columbia)

Brenda Elias (University of Manitoba)

Michael Hart (Assembly of Manitoba Chiefs)

Kathi Avery Kinew (Assembly of Manitoba Chiefs)

John O'Neil (University of Manitoba)

In Canada, the suicide rate for Indigenous persons is 3-5 times higher than that of the general population. For Indigenous youth, the rates are 5-20 times higher. Our own efforts to understand these grim statistics led us to examine the possibility that suicide rates would be lower within Indigenous (First Nations) communities that engage in specific cultural and

political practices that work to preserve and promote traditional knowledge and to strengthen commitment to community. Thus far, our work in British Columbia has identified a set of nine community practices that are associated with substantial reductions in suicide risk. These include measures of direct political control over community services (e.g., policing, education, health, child protection), the preservation of cultural activities (e.g., traditional language use, construction of cultural facilities), and of success in securing self-determination (e.g., self-government, land claims and treaty negotiations). Though strongly predictive of community-level suicide rates, these indexes of "cultural continuity" were created with reference to the particular socio-historical context of the First Nations of British Columbia. Whether or not these measures can be made to apply to distinctly different Indigenous communities in other regions of Canada remains an open question. The study to be presented describes the process of adapting the model developed in British Columbia to the Dene, Cree, Ojicree, Ojibway, and Dakota peoples of Manitoba.

First Nations women: Supporting the health and cultural identity of youth

Robin A Yates (University of Victoria) Christopher E Lalonde (University of Victoria)

For Canada's Aboriginal peoples, the effects of colonization continue to be measured in lowered health status and increased death rates—and especially in elevated rates of youth suicide. Among First Nations youth, suicide rates appear to be influenced by community efforts to preserve and promote traditional culture and to assert control over community life. This study concentrates on one aspect of such efforts—the participation of First Nations women in local government—and on the fact that suicide rates are lower in communities where women occupy the majority of seats on the Band Council. In-depth interviews were conducted with ten First Nations women with extensive experience in community governance. The interviews were analyzed for themes regarding how and why these women became involved in their local government, how they conceptualize their roles as women, what perspectives they hold regarding the development and transmission of culture, and the ways in which they value youth. By focusing on the positive effect women leaders can have on the identity and health of youth, this research broadens our understanding of the relationship between First Nations cultural identity and youth suicide rates and provides support for the involvement of First Nations women in local government.

Metaphors of cancer: Cross-cultural differences in Aboriginal and non-Aboriginal children

Ulrich Teucher (University of Saskatchewan)

The use of literary tropes such as metaphors can provide reference frames for the study of children's narratives and source models for research in developmental psychology. In cancer narratives, metaphors constitute complex cognitive models through which patients undertake to organize, represent, and (re)constitute complex body, self, illness, life, and death. But, for many developmental reasons, it is much harder for children with cancer to give voice to their experience and little is known how children from various cultural backgrounds differently adjust to such crises. The study being reported here employs an empirically generated "Therapeutic Psychopoetics" that can make the therapeutic, psychological, and aesthetic properties of those metaphors explicit that young cancer patients employ in their narratives. A Study Group of 25 Cree children and a Control Group of 25 Caucasian children were

invited to provide metaphors and oral narratives of their lives with cancer. The results reveal interesting similarities and cultural differences in the use of metaphors and the composition and content of oral accounts of cancer, showing how Aboriginal and non-Aboriginal children think about life with cancer, its treatment, and healing.

Affect, values and respect: The need for cross-cultural research

Yeh Hsueh (University of Memphis) Katherine M Kitzmann (University of Memphis)

In 1932 Piaget offered a conceptual distinction between children's unilateral and mutual respect, and he later further elaborated the properties of respect. However, little developmental research has addressed this topic since then. Piaget's definition of respect in terms of social exchange touches on the concept of affects (i.e., children's respect originates from fear of and affection for parents) and relies on the concept of values (i.e., respect is essentially an attribution of value to another person). But in other ways affects and values were not well integrated in Piaget's theory of knowledge development. Pointing out this disconnection, Terry Brown revised Piaget's social exchange model to incorporate affective development. Similarly, because norms for affects and values are both culturally mediated, we believe that research on respect from a Piagetian perspective would benefit from the incorporation of concepts from cultural psychology and cognitive anthropology. Such integration would not likely entail any significant change in current research method. Rather, this integration would serve a heuristic purpose in promoting more cross-cultural research on children's respect, and would provide a meaningful conceptual framework for interpreting results of new research in this area.

Fairness and selfishness in negotiations about sharing: A developmental and crosscultural perspective

Monika Keller (Max Planck Institute for Human Development) Michaela Gummerum (University of British Columbia) Jutta Mata (Max Planck Institute for Human Development) Zhou Liqi (Chinese Academy of Sciences)

We will present findings from a study integrating moral development and behavioral economics in a group decision-making experiment. Children of four different age groups decided individually and negotiated in a group of three how to share a sum of money with an anonymous other group (dictator-game). Negotiations were videotaped and analyzed. Individual decisions revealed that an equal split was the modal choice. The youngest group was slightly more egoistic than the older groups. In general, groups gave slightly less than individuals. Fairness was used most frequently as reason for equal split across all age groups. Fairness arguments and attributions of positive characteristics to the other (anonymous) group supported the increase the offers, while arguments characterizing the other group as negative served to decrease the offer. Attributions to others were used more frequently by older children and adolescents compared to the youngest group. Analysis of the process of argumentation will be presented. We will also discuss findings from a cross-cultural comparison with groups of Chinese children and adolescents of the same ages. First results show a predominance of economic arguments compared to the more private arguments of the German sample.

9:00-10:30 Loch II SY05 Symposium Session 5

#### Theoretical dialogue about the development of young children in a child care center

Organizer: Vera Vasconcellos (State University of Rio de Janeiro)

Discussant: Cintia Rodriguez (University of Portsmouth)

The main aim of this symposium is to develop a dialog among different theoretical perspectives concerning human development. The basis for this discussion is through common empirical data, observations in form of video recordings, of a University Child Care Center from a public University in Niteroi, Brazil. These observations were done weekly, focusing on the first two months (May and June) of the children (20 to 24 months of age) in this new educational environment. The observations focused the children's interactions with the environment, other children, family and staff. The original study, developed by Vasconcellos, through Henry Wallon's sociogenetic approach, analyses the role of imitation in the developing concept of self, of others and of things. Colinvaux takes another perspective when analyzing these observations, that looks into cognitive processes. Focussing on children's actions when playing with toys and with other children, she shows how repetition of actions generates a broadening spectrum of actions as well as new ones, thereby allowing the young child to build knowledge. Dibar et al, on the other hand, explore the possibility of finding evidence in children's actions that may contribute to the current discussion of domain specificity. In this view, they will focus the neuroconstructivist perspective of development (Karmiloff-Smith) on the origins of cognition. They will discuss, particularly, the theme of the gravitational field in which we are born and that has an evolutionary impact even on the formation of our organism. In the video recording, they take into account the children's games on the slide, on the trail and with small toys. Together these three perspectives have the objective of discussing the mediational nature of social, historical and cultural contexts on one side and constraints on the other, in the processes of development of small children. This discussion tries to link contributions of developmental psychology and articulate it to the needs of child education. The challenge here is to elaborate a proposal that will meet the needs of these small children with effective participation from all: researchers, teachers and parents, to ensure quality in child education, that promotes healthy development for children.

Play and imitation in a peer interaction

Vera Vasconcellos (State University of Rio de Janeiro) Aline Barbosa de Sa (Lehigh University)

Play, actions and knowledge building processes

Dominique Colinvaux (Universidade Federal Fluminense)

Contributions from a neurocognitive approach

Celia Dibar (Universidad de Buenos Aires)

Maria Teresa Cafferata (Universidad de Buenos Aires)

10:30-10:45 Break

10:45-12:00 Ches II PLO3 Plenary Session 3 – Carol Lee

# Every shut eye ain't sleep: Modeling the "scientific" from the everyday as cultural processes

Carol Lee (Northwestern University)

The arts provide a unique mediating role in human development, offering a medium and context through which both cognitive and socio-emotional development can be cultivated. In everyday contexts, music, film, dance and the visual arts play such roles; often embodying cultural scripts, models of human action, and arenas of disputation within and across cultural communities. Involvement with these art forms is situated in social spaces in which language, artifacts, and interactions with other people that provide the resources through which learning and engagement are negotiated. While we have lots of evidence that everyday settings outside of school are organized in ways that support deep engagement in such learning through the arts, schools have been successful typically only in specialized arts programming that is not considered a major stream of academic work. And in schools serving youth from low-income and minority communities, such programming often receives only minimal support. However, how everyday knowledge in the arts can be leveraged to support specific academic forms of disciplinary learning, particularly in fields such as literary reasoning, mathematics and science, has not been sufficiently researched, especially with regard to youth from ethnic minority and low-income communities.

In this presentation, I examine how everyday knowledge in the arts offer conceptual anchors for modeling particular concepts and inscriptions in science, mathematics and literary reasoning. I will illustrate the functions that such anchors serve in real cases of instruction organized around building upon cultural repertoires of youth from ethnic minority and low-income communities. In particular, I am concerned with understanding how a particular area of the creative arts, specifically the comprehension of fictional narratives, can bridge from the everyday to the academic, where the academic is operationalized as reading canonical literature. The canonical literature is here defined as literature which speaks deeply to the human condition and has stood the test of time, crossing national borders. Specifically, I will illustrate how tacit knowledge of African-American English rhetorical forms as well as of youth and popular cultural forms were transformed to disciplinary specific modes of reasoning. This transformation represents what Geoffrey Saxe calls a form-function shift in the uses of cultural forms from one context and function to another.

I argue that such modeling from the everyday to the disciplinary can support multiple outcomes in both the cognitive as well as the psycho-social dimensions of learning: conceptual understanding, disciplinary dispositions and habits of mind, identification with the practices of the discipline, resilience and persistence in the face of difficulty and failure, and goal setting. I argue that literary reasoning can also provide an arena in which youth can learn ways of coping with life circumstances and that such learning is necessary for all youth, but particularly for those struggling with the challenges of poverty and societal stigmatization through racism.

The Cultural Modeling Framework provides conceptual and methodological tools for leveraging knowledge constructed in everyday practices in service of learning within academic

disciplines. The Cultural Modeling Framework is offered as both a conceptual and methodological tool for the design of learning environments in which these dual goals of cognitive and psycho-social development are addressed in ways that privilege the repertoires that youth develop in their everyday lives in ways that build on and expand such repertoires for academic learning within disciplines. This framework examines learning as cultural processes in which knowledge, beliefs, and practices are negotiated.

12:00-1:30 Lunch

12:00-12:30 Ches II MEM Annual Members Meeting

#### **Annual Members Meeting**

All JPS members are encouraged to attend.

1:30-2:45 Ches II SY11 Symposium Session 11

#### Possibility and its play in critical exploration

Organizers:

William Shorr (Harvard Graduate School of Education)
Kate Gill (Harvard Graduate School of Education)

Discussant: Eleanor R. Duckworth (Harvard Graduate School of Education)

This symposium investigates Piaget's notion of possibility and its location in three different Critical Explorations. Critical Explorations are active investigations into phenomena fueled by conversations. The method was developed by Eleanor Duckworth based on her work with Inhelder and Piaget and draws heavily on Piaget's original Clinical Method (Duckworth, 2005).

Critical Exploration contrasts with most teaching methodologies, first in the choices of materials that learners encounter and second, in the teachers' stance of eliciting learners' thoughts and interest rather than telling learners what and how to think. Together, these practices support teachers' research on the evolving ideas, interests and commitments of their students, allowing them to support, in turn, the learners' active development. Over the past three decades, research based on Critical Explorations has informed teaching and learning in richly diverse subject matter, from courses at the Harvard Graduate School of Education to classrooms and informal educational settings all over the world.

In these three papers, adult English Language Learners consider a painting by Cézanne in the gallery of an art museum, secondary students interpret Erich Remarque's All Quiet on the Western Front, and social studies educators begin designing a game for teaching peace as subject matter. Each of the papers traces one or more episodes of collaborative knowledge construction within these contexts, looking closely at how learners engage with each other and how this particular sort of pedagogical experience supports the expansion of the students' sense of the possible.

Two of the papers describe different, yet characteristic features that arise in the unfolding discourse of Critical Explorations. The first investigation, by Gill, explores Critical Exploration through a Bakhtinian lens, analyzing how the utterances of adult English Language Learners function to produce authentic as contrasted with scripted dialogues. The second, by Mayer, focuses on the ways in which authority is represented and distributed between a teacher and her students in a literature classroom. In the final paper, Shorr explores the development of teachers' intellectual and dispositional structures in a professional development workshop context.

As a group, these papers illustrate the contours of Critical Exploration as a research and

teaching methodology. Individually, they analyze Critical Explorations at the level of the utterance, move, and narrative. Each, in its own way, tells what Duckworth has termed "a story about the collective creation of knowledge" (2001, p.1).

Here all is possible: Critical exploration with adult English language learners in an art museum

Kate Gill (Harvard Graduate School of Education)

Critical exploration and the distribution of authority in one secondary classroom Susan Jean Mayer (Harvard Graduate School of Education)

A critical exploration of peace, learning, and pedagogy with social studies educators William Shorr (Harvard Graduate School of Education)

1:30-2:45 Ches III DS01 Discussion Session 1

## Whither equilibration and co-construction? Have we made good on the promise of Piaget's interactionist view?

Organizers:

Jeanette McCarthy Gallagher (Temple University) Brian D Cox (Hofstra University)

Participants:

Thomas Thiel (University of Potsdam)
Eric Amsel (Weber State University)
Robert L Campbell (Clemson University)

Developmental psychology has always had a rich theoretical base, because of its unique focus on ontogenetic, phylogenetic, and cultural-historical time scales. Piaget's wide intellectual range allowed him to progressively add such notions as homeostasis, genetic assimilation, semiotics and cybernetics to his conception of organism/environment interaction. Central to his notion of the growth of the structures d'ensemble has of course, been equilibration. This discussion will first consider that psychologists have had little success at promoting in their classes such a multidimensional theoretical construct even today. Secondly, there are several new bright spots on the horizon, some of which (see Li, 2003), see neurobiology and culture as coconstructive influences on development. This discussion will focus on the ways in which a truly nonreductionistic developmental theory is finally beginning to bear fruit in diverse domains, and how to get the word on these developments to spread beyond conferences like this one. For more information on the questions and participants in this session, please go to http://www.lightningfield.com/jeanette/ before or during the conference.

1:30-2:45 Loch I PS06 Paper Session 6

#### Narrative development

Chair: Monika Keller (Max Plank Institute)

#### The development of main character in young children's narratives

Ageliki Nicolopoulou (Lehigh University) Hande Ilgaz (Lehigh University)

This study explored children's construction and coordination of characters through the questions of whether, how, and when children portray a single main character in fantasy narratives. Existing research has not systematically examined whether children necessarily use a single main character to organize their stories, however standard conceptualizations of narrative assume it. This study analyzed 570 spontaneous stories by 30 3-, 4-, and 5-year-olds in a storytelling/story-acting practice integrated into their preschool class. We proposed a model to delineate the ways that young children differentiate between central and peripheral characters. We used this model to examine whether and how children establish a main character in their stories, and to reconstruct alternative strategies of character construction and coordination they employed. The results indicated that by 4 years, children were capable of portraying main characters, but they did not typically organize their stories around the actions of a single main protagonist. Girls and boys used different strategies to construct and coordinate characters, based on distinctive gender-related narrative genres that organized and oriented their stories; the developmental trajectories in their creation and use of main character were significantly different.

Talking to children: How important is context?

Elaine Reese (University of Otago) Alison Sparks (Clark University) Enila Cenko (Clark University)

What is the role of adult language input in development? Researchers from many different fields have addressed this question, but the research base is far from integrated. For instance, researchers focus on the importance of adult language for children's language, literacy, narrative, memory, understanding of mind, and socioemotional development. Yet researchers from these different fields approach this question using different methodologies and different language contexts in which to sample adult input: free play, caregiving, book reading, story-telling, and past event talk. We propose a theory of the way that adult input affects development in various domains. We argue that similar adult language forms can affect children's development in similar ways across domains, but that there may also be important differences across contexts and across developmental domains. We draw upon our own and others' studies of adult input in relation to children's language, literacy, narrative, memory, understanding of mind, and socioemotional development to inform our theory.

Pictorial and narrative representations of children's sense of self and play

Sandra Bosacki (Brock University) Amanda Varnish (Brock University) Spogmai Akseer (Brock University)

This study investigated the relations among children's perceptions of self and play in 91 school-aged children, (52 girls, 37 boys, aged 5-8 years) in two schools located in a mainly Euro-Canadian, middle SES, semi-rural area in southern Ontario, Canada. The study involved standardized measures, interviews, drawings and narratives to assess children's perceptions of play and self. Teacher ratings of social behaviour and competencies were also collected.

Findings showed that drawings and stories differed according to gender with more girls than boys describing their drawings in terms of mental and psychological terms. Gendered relations existed between the number of siblings and the number of characters portrayed in the drawing. That is for girls, a larger number of girls' drawing characters were positively associated with a larger number of siblings, whereas the opposite was found for boys (more siblings, fewer drawing characters). Implications for socioemotional and cognitive development were discussed.

Narrative practices in low-income families

Diana Leyva (Clark University) Elaine Reese (University of Otago) Alison Sparks (Clark University)

Children from low-income families are at risk of encountering difficulties in reading and overall academic achievement upon school entry. Theorists point to the importance of adult-child interaction in early childhood as a predictor of children's reading and school success (Snow, Burns, & Griffin, 1998). Yet, with a few exceptions (e.g., Dickinson & Tabors, 2001), we still know little about the adult-child interactions that take place in low-income families. We interviewed over 50 low-income parents from diverse cultural backgrounds about their story reading and past-event conversation practices. Then we observed parents' story reading and past-event conversations at home with their 4-year-old children. We found differences in parents' preferred and observed narrative practices that often fell along cultural lines. We discuss the implications of these differences for language and literacy interventions with low-income families from diverse cultural backgrounds.

Narrative performance and the creation of local culture in two preschool classrooms

Sandra L Keller (Rhodes College) Marsha D Walton (Rhodes College) Ageliki Nicolopoulou (Lehigh University)

Most teachers realize that classrooms come to have their own 'personalities' and dynamics, but the process by which such local cultures develop has been little studied. Using the microcosm of two preschool classrooms, we explored how children create, negotiate, and perpetuate classroom culture through a communal narrative performance activity. Children created stories, cast classmates as characters, and acted the stories out together. The 470 narratives collected were reliably coded for such features as: organization around non-canonical events versus ordinary life activities; assumption of an individual versus shared narrative voice; extent to which authors reported emotional experiences; and severity of violence described. We noted recurring stylistic devices, cultural motifs, characters, settings, activities, and plights. Children frequently appropriated features of classmates' stories and creatively adapted them in their own narratives. We developed a method of representing this spread of themes and stylistic devices over time. We found that, even though the two classrooms were taught by the same teacher using the same curriculum (and even had eight of the same students!), their narrative cultures differed in interesting ways, including the extent to which stories featured violence or ordinary life events. Our findings demonstrate the role of artistic expression in the development of a cultural milieu in which children create social identities.

1:30-2:45 Loch II PS07 Paper Session 7

#### Arts education: General issues

Chair: Cindy Dell Clark (Pennsylvania State University)
Discussant: K Ann Renninger (Swarthmore College)

The work of art in an age of electronic reproduction: A constructivist account of media aesthetics

David W Kritt (CUNY College of Staten Island)

This paper is a constructivist consideration of changes in perception, aesthetic experience, and understanding as a result of recent advances in information and communication technologies. It is argued that representations in media do not transparently convey information, but rather transform the aesthetic experience. Recognition of the reciprocal influence of observer and artistic object suggests that meaning emerges from their interaction. Philosophical discourse about the relation of form and content, the Piagetian distinction of figurative and operative aspects of thought, and insights from communications theory will be brought to bear upon the phenomenon. Discussion of new aesthetic issues regarding appropriation and multimedia will serve as a point of convergence.

Parents' perspectives on creativity: A cross-cultural comparison

Danijela Korom Djakovic (Public/Private Ventures)

This study explored European-American and Serbian parents' implicit theories about creativity. Participants were 45 European-American and 57 Serbian parents of 4- to 6-year-olds. Parents participated in semi-structured interviews and completed questionnaires. Interview analyses revealed many similarities and differences in parents' ideas about creativity. For example, both groups of parents associated the word creativity with something unusual or different, with imagination and problem solving. Parents from both groups agreed that restrictive kind of parenting hinders children's creative development. While European-American parents saw various forms of artistic expression as quintessential in their thinking about creativity, Serbian parents' conceptions of creativity incorporated the ability to successfully manage everyday tasks such as communicating effectively with people, finding solutions in unexpected circumstances and adapting to life's circumstances. Questionnaire findings suggested that European-American and Serbian parents' thinking about creative children may be guided by somewhat different prototypes. Unlike Serbian parents, European-American parents emphasized the creative child's energy and saw creative children as inventive, independent, enthusiastic, and adventurous. In contrast, according to Serbian parents, creative children are cognitively competent – they understand quickly, pay attention, and concentrate well. The need to study creativity as a phenomenon embedded in social and cultural contexts was pointed out in this investigation.

Teacher educators' epistemological beliefs about art and science learning in early childhood

Jim Johnson (Pennsylvania State University)
Ebru Ersay (Pennsylvania State University)
Mine Gol (Pennsylvania State University)
Jale Aldemir (Pennsylvania State University)
Shanna L Graves (Pennsylvania State University)

Teacher education research assumes that intentional action by adults with children are guided by conceptions of development and individual differences that are belief driven and that inform theoretical frameworks about instruction and learning. Our purpose is to identify professional understandings about competence, development and individual difference in young children's early science and art learning. Over the course of three interviews, 10 teacher educators from art and science education programs articulated their beliefs about children's early science and art learning. Emergent themes included family environment, cultural factors, social interaction, and intrinsically motivated actions. Results are discussed in relation to complementary learning across formal and informal educational settings, suggesting many open-ended forms of curriculum and instruction.

#### Philosophical talent

Thecla Rondhuis (Utrecht University)

This paper explores 'philosophical quality' in divergent thinking patterns performed by 10 – 20 years old youngsters. Philosophical quality encompasses 1) analysing and reasoning qualities, 2) qualities detecting ambiguities, uncertainty and borderline explorations, and 3) qualities of switching swiftly from theory to practice. As conventional judgements often proved to be inadequate to characterize these features, a new 5 indicator conceptual framework and a measuring instrument were developed. The measuring instrument consists of a philosophical discussion among four participants: tetralogue. Each tetralogue is ignited by a philosophical question and chaired by an expert. 70 Such tetralogues were recorded, revealing a total of 14,393 oral utterances, all checked on philosophical indicators. Results were tested positively on objectivity and reliability. Two numerical indices were constructed: pq and PQ, reflecting philosophical quality of individually and of collectively performed thinking patterns in tetralogues. These are proved to be valid. Moreover, individually performed philosophical quality proved to be relatively stable, determinable at an early age, and related to openness to experience as a personality trait and can therefore be qualified as a talent.

2:45-3:00 Break

3:00-4:30 Ches II ISO3 Invited Session 3

#### Discovery and invention in the context of learning

Chair/Discussant: Michael Eisenberg (University of Colorado)

This invited symposium examines the internal process of discovery and invention that characterizes young and older students learning of music and science. Nemirovsky will illustrate the role perceptuo-motor activity plays in advancing mental-representational thinking with the case of an 8 year old boy's exploration of symbolic representations of motion. Bamberger utilizes children's explorations of how to symbolize musical time as the basis for insight into the com-

plex and critical transformations involved in understanding and using symbolic conventions. DiSessa will illustrate the diversity of invention that characterizes the acquisition of normative concepts in science and argue for the vital role of individual creativity in school science.

On the continuity between perceptuo-motor intelligence and advanced symbol use Ricardo Nemirovsky (San Diego State University)

In "Play, Dreams, and Imitation" Piaget elaborated on the development of the "symbolic (or semiotic) function". This is a functionality that appears around the age of two years allowing the child to think about absent objects and refer to signifieds via signifiers. The symbolic function initiates a departure from sensori-motor intelligence toward "representational" intelligence. Piaget claimed that between these two types of intelligence there is functional continuity but structural discontinuity. Through the work of Piaget and his co-workers, we can recognize a tension between the often-claimed centrality of sensori-motor intelligence, and the "higher level" of mental operations to be characterized by logical and procedural principles. Furthermore, an opposition is frequently invoked between perceptuo-motor activity and mental-representational activity, in which the latter has to overcome the former to advance development. In this paper we will argue that what is seen as advanced mental-representational activity is "perceptuo-motor", and that in order to recognize this identity we need to foreground the actual perceptuo-motor activity people enact in the context of symbol use. We will illustrate this point with a short videotaped episode from a series of interviews with an 8-year old boy who is engaged in learning about ways of symbolizing motion.

It's About Time: "Rhythm characterizes the functions that are at the junction between organic and mental life" (Piaget)

Jeanne Bamberger (Massachusetts Institute of Technology)

I will argue that in their efforts to describe organized (periodic, patterned) rhythmic actions (clapping, walking, drumming), children give us a window into general problems of learning to understand and use common symbolic expressions. More specifically, in seeking to make descriptions of objects (including themselves) in motion, they must find ways to hold time and motion still, to contain and bound it to make bits and pieces. By studying their efforts in doing so, children also provide us with insight into the complex and critical (silent) transformations involved as we/they come to understand and to use symbolic conventions that capture, compress, consolidate motions going on. Music, of all our creations, is about time. Music, shaping time, privileges it to become as one of nature's living phenomena. Music brings the transient presence (of time) into consciousness-making time palpable, as if hand held. But going-on experience is continuously dependent on memory, forever updating, putting together the disappearing past. So the present depends on what you have taken from the disappearing past-depends on what you bring into the passing present. So you are forever conjuring up, inventing the moment's meaning, the contents of time. The episodes with children that I follow, recapitulate in innocent form the efforts of philosophers and scientists throughout history to hold time still so as to reflect upon it, to digitize, count, measure its evanescent, continuously disappearing presence.

Where is the creativity in learning scientific concepts?

Andrea A diSessa (University of California – Berkeley)

It is conventional to think of learning science as less creative than, for example, art or litera-

ture. In fact, given the goal of "acquiring normative concepts," creativity in learning science may even seem implausible or possibly contrary to the social contract. However, I will argue for an inevitable place for individual creativity in school science. The following are elements in this argument:

- 1. Some aspects of science are essentially generative and creative, so teaching students these ideas is essentially teaching them to be creative.
- 2. While it is simplifying and therefore possibly helpful in tracking conceptual change (or development) to think of a uniform trajectory, the fact is that there is a huge diversity in students' intuitive notions, which are the resources (problematic or helpful) for conceptual change. This means that students must, at least in some degree, create their own track to normative concepts, even if the end state is the same.
- 3. There are good reasons to believe that scientists' concepts are more diverse than one might initially imagine. Every physicist can solve freshman physics problems and talk to other physicists, but how much uniformity does that really imply? Certainly creative new application of "standard" concepts is part of science, and so it should part of school science to prepare both diversity and creativity in students.

I will illustrate these points with data from several recent projects studying the learning of physics.

3:00-4:30 Ches III PS08

Paper Session 8

#### Representation and reasoning

Chair: Brian D Cox (Hofstra University)

Evidence against the U-shaped curve in children's expressive drawings

Richard P Jolley (Staffordshire University) Claire M Barlow (Staffordshire University) Maureen V Cox (University of York)

This study addressed the question of whether the developmental pattern of children's expressive drawings is reflected by a U-shape curve (e.g., Davis, 1997; Gardner & Winner, 1982) or age-related improvements (e.g., Jolley, Fenn & Jones, 2004). Three hundred and thirty British participants (4-, 5-, 6-, 7, 9-, 11-, 12- and 14-yr-olds, 14-year-old artists, non-artist and artist adults) were asked to make 3 expressive "free" drawings (happy, sad and angry). Drawings were assessed by artist raters on five 'expressive' measures (i) the number of expressive content themes, (ii) use of line, colour and composition to express, and (iii) overall quality of expression. Children aged between 5 and 9 years performed similarly whereas children aged 11 years and above scored significantly higher. There was evidence that the drawings produced by the 4-year-olds and adult artists scored significantly lower and higher respectively compared to all the other groups. We argue that the previously reported and claimed U-shape curve is a reflection of a modernist art approach to evaluating children's expressive drawings (see also Pariser & van den Berg, 1997, 2001), and that the consensus in the literature suggests that development of children's expressive drawings would be better conceived as an age-related incremental pattern.

Object assembly and script construction by young children: Making use of stationary models and of active demonstration

Eugene Abravanel (George Washington University)

Two age groups of young children (25-and 30-mos-olds) were studied in order to evaluate their ability to reproduce 3-part assemblies and scripts after introduction of stationary end-state models or following active modeling. Both types of observationally-based information contribute greatly to performance and knowledge, and our objective was to determine success in utilizing them at an early age. Employing a pretest-treatment-posttest design, changes following treatments were analyzed. At both ages, only modest to moderate gains in performance appeared following exposure to stationary models; somewhat greater gains were made following active modeling. Small, but noteworthy improvements occurred with age. The findings are considered in terms of ability to analyze and represent objects semiotically as signifiers of what might be accomplished when they are construed symbolically in addition to practically.

Are non-arbitrary number symbols easier than conventional ones?

Elena Nicoladis (University of Alberta) Paula Marentette (University of Alberta) Simone Pika (University of St. Andrew's)

When learning new symbols, children must learn to map symbol and meaning. Many researchers have argued that this mapping is easier if the symbol is non-arbitrary (e.g., Werner & Kaplan, 1963). However not all research has supported this conclusion. Studies showing little effect for non-arbitrary symbols are particularly interesting given recent theoretical emphasis on conventionality in learning symbols (e.g., Tomasello, 1999). In this study, we investigated if preschool children find arbitrary or conventional symbols for numbers (1-10) easier. 72 children between the ages of two and five years participated in this study. We tested them on three kinds of symbols: 1) Number words (arbitrary), 2) Conventional gestures (non-arbitrary) and 3) Non-conventional gestures (non-arbitrary). The dependent measure was the percentage of correct responses. The results showed that the children were more accurate with number names than conventional gestures and with conventional gestures than with non-conventional gestures at all ages. This pattern of results also held for numbers bigger than four. These results suggest that if children use the non-arbitrariness in the acquisition of symbols, this attribute is less important than conventionality. We argue that iconicity might help children after they have learned a conventional symbol for a referent.

What role does gesture play during instruction: Does gesture stimulate active engagement in problem-solving?

Ruth Breckinridge Church (Northeastern Illinois University) Saba Ayman-Nolley (Northeastern Illinois University)

Constructivist theories have suggested that learning best occurs through dynamic interaction with the environment. So what if we pull action out of the gesture and put it back in the speech? To this end, data on 30 third graders has been analyzed. All children were instructed in an one-to-one teaching situation, to solve math problems, such as 4+3+5=\_\_+ 5. Children were randomly assigned to 4 conditions: (1) active speech only, (2) active speech and gesture, (3) passive speech only and (4) passive speech and gesture. All children in the class were given a paper and pencil test before and after the instruction. The preliminary

results showed that active-based instruction, especially speech alone was better for learning than passive instruction. So once we took the action out of the gesture and put it in the speech (make children talk about how to solve the problems correctly), the speech was a highly effective teaching tool. Thus, active engagement appears to be a powerful method for learning. Our findings will be discussed in light of a constructivist approach to teaching in classrooms.

The acquisition of the alphabetic principle in tutored and untutored situations

Marianne Wiser (Clark University) Molly Bullock (Clark University) Mitchell Guerette (Clark University)

When learning alphabetic scripts, children have the difficult task of realizing that letters stand for phonemes (alphabetic principle). In Study 1, we show that the alphabetic principle is a sudden insight. We tested 40 four-and five-year-olds and found that they knew either few consonant-phoneme pairs (less than 7), or most of them (more than 15). We also tested their ability to learn unfamiliar symbol-unfamiliar sound pairs. The children who knew a lot of English consonant-phoneme pairs could do so, while those who knew few English pairs could not. We conclude, in agreement with T. Deacon, that symbolic development starts with learning a few indexical relations slowly by rote, forming the basis for a symbolic insight (in this case, that letters stand for speech sounds), that allows rapid learning of further relations. In Study 2, we attempt to facilitate learning letter-phoneme associations by first teaching children that visual symbols can represent sounds, using arbitrary symbols and animal sounds (which are easier for young children to discriminate than phonemes). We found that these children made significant progress in learning letter-phoneme pairs while a Control group who learned to pair animal sounds with animal pictures, did not. Pedagogical implications are drawn from the two studies.

Looking for Piaget's Social Theory in Fantasy Play: Rules, Values, and Signs Embedded in Rhythms and Regulations

Keith R. Alward

Piaget's speculation on the intersection between sociology and psychology is entirely conceptual, without reference to behavior. To give meaning to his conceptual social theory, it is necessary to look at behavior. Fantasy play entails three aspects of interest to a sociological-psychological theory: its creative and improvisational-collaborative quality, its generative quality—i.e., the capacity for infinite variations on domestic themes—; its pre-equilibrated forms of social interaction suggested by the terms of rules, values, and signs structured as rhythms and/or regulations. This paper looks at play episodes presented in William Casaro's We're Friends, Right? (2001). An analysis of children engaged in fantasy play at an indoor sand box in a pre-school setting, shows that the children are able to elaborate an improvised thematic story in which roles, themes, and functions are communicated through rhythmic cues. It is possible to identify elements of the play activity which correspond with Piaget's characterization of rules, values and signs. It is also possible to characterize some of the activity as structured by regulations that go beyond mere rhythms. It is speculated that the rhythms and regulations that underlie the integration of rules, values and signs, also makes possible the generative and improvisational quality of fantasy play.

3:00-4:30 Loch I SY06 Symposium Session 6

#### Moral development and social interaction

Organizers:

Jeremy Carpendale (Simon Fraser University)
Ulrich Müller (University of Victoria)

The speakers in this symposium explore various cognitive, affective and social factors that are involved in socio-moral development and contribute to the development of competent moral agents. The first paper examines the role of executive function in the development of moral agency, beginning with ideas from Piaget and Vygotsky and going on to review possible underlying neurological links. The paper concludes by acknowledging that although neuropsychological functioning is necessary, moral development necessarily occurs in social practices. In the second paper, views of the nature of perspective-taking and empathy and their links to moral development are examined, beginning with the contrasting theoretical traditions of cognitivist and emotivist accounts of moral agency. The third paper considers the role of language in the acquisition of moral concepts and explicates the foundation for such concepts in social practices. Evaluating the role of forms of social interaction in development is continued in the fourth paper, which presents the results of a study on links between social understanding and moral development, and between forms of parent-child interaction and children's moral development.

Moral agency and executive function

Ulrich Müller (University of Victoria) Kimberly Kerns (University of Victoria) Marianne Hrabok (University of Victoria)

Perspective-taking, empathy, and moral motivation: Exploring the tension between cognitivist and emotivist accounts of moral agency

Bryan W Sokol (Simon Fraser University)
M Kyle Matsuba (University of Northern British Columbia)
Stuart Hammond (Simon Fraser University)
Snjezana Kralj (Simon Fraser University)

Acting and talking in the development of moral concepts: How children learn the meaning of moral words

Jeremy Carpendale (Simon Fraser University)

Relations between moral reasoning, social understanding and parent-child talk

Timothy P Racine (University of Manitoba)

3:00-4:30 Loch II SY07 Symposium Session 7

### Development through creativity and "wonderful ideas": Student explorations of art and science

Organizer: Elizabeth Cavicchi (MIT)

Discussant: Eleanor Duckworth (Harvard Graduate School of Education)

Doing art is like doing science, both are creative acts. As their hands work with materials, artists' and scientists' ideas develop. Yet school instruction in art and science often requires students to abide by scripted protocols. To redress this situation means setting up teaching and learning environments where students become active creators. When students are encouraged to feel wonder about nature, they respond spontaneously in ways that enhance and elucidate it.

This symposium will present creative developments in art and science done by students within environments that supported their exploratory and evolving responses to nature, materials, and the work of others. The presenters are teachers who practice the methodology of "teaching/learning research" that Eleanor Duckworth adapted from the clinical interviewing of Piaget and Inhelder. A teacher provides students with ink, water and ricepaper – or wires, batteries and bulbs – and an opening question, but does not tell her students what to do or think. Learners interact directly with these materials, notice what happens, try something. "Wonderful ideas" emerge as learners see, do, make, or think about, something for their first time. New "wonderful ideas" grow on past "wonderful ideas', bringing about a learned "curriculum" that is emotionally compelling and intellectually ever-enriching.

The three presenters were students of Eleanor Duckworth who are now teachers in classrooms of their own. They find this methodology particularly evocative for involving students of art and science as creators in their own right. Chiu describes how by exploring Chinese painting, her high school students created original brushwork that was simultaneously innovative and resembling those of ancient masters before the Ming Dynasty. McDonnell describes the creativity she sees in the thinking and actions of teacher education students in science methods, in the observations they make, the ideas they construct, the connections they make between ideas and materials, questions and possibilities that they raise, and investigations they design. Improvising with old and new things, like mirrors and lasers, Cavicchi's undergraduate class created experiments involving them in debate, suspense, confusion, yet more experimenting, and partial resolution of their questions.

The presenters find that students' acts of personal creativity, their "wonderful ideas", are what germinates into original productive work branching in many areas while deepening in understanding. Art and science are mutually generative: painting students become curious about botany; science students draw crickets. Students' playfulness opens their creativity. The educational implications echo the genuine exploration that Piaget envisioned happening in schools.

Exploring traditional Chinese painting
Son-Mey Chiu (Boston Latin School)

Learning as a creative act
Fiona McDonnell (Rivier College)

Science experimenting with old and new things
Elizabeth Cavicchi (MIT)

4:30-4:45 Break

4:45-6:00 Ches II PLO4 Plenary Session 4 – Norman Freeman

#### How children intuitively develop into amateur art critics

Norman H Freeman (University of Bristol)

Whenever children immerse themselves in domains of knowledge, something inside impels them to develop a theory of each domain. Immersion in art is no exception. We here look at complementary basic formulations of how to characterise the development of a communicative theory of pictures, cross-comparing it with theory of mind and of linguistic communication. A prime task is to work out how we would know whether what we regard as the child's theory is actually operative in the way that researchers suppose it to be.

A theory in any domain is a product of a certain type of learning and it facilitates further learning. Each theory has its own peculiar features, necessarily so since each deals with different inputs and outputs. Pictorial theory exploits the function of pictures as input devices for extending normal vision and imagery into areas that might otherwise remain inaccessible or unregarded. Although pictures are a recent arrival on the evolutionary scene, people's conceptualization of pictures is rooted in evolutionarily ancient representational-communicative practices.

6:00-7:00 Ches I PT02 Poster Session 2

#### Poster Session 2: Education/Morality/Theory

 Contextual effects on "happy victimizer" expectancies in normally developing and behaviorally disruptive children

Elizabeth A Lemerise (Western Kentucky University)

William F Arsenio (Yeshiva University)

Rachel Waford (Western Kentucky University)

2. Social information processing and moral reasoning in behaviorally disruptive and comparison adolescents

William F Arsenio (Ferkauf Graduate School of Psychology)

Jason Gold (Ferkauf Graduate School of Psychology)

Erin Adams (Ferkauf Graduate School of Psychology)

3. How do children preserve signature style and distinctive genre in the same drawing?: Resolving a paradox

Robey Champine (Smith College)

Maria French (Smith College)

Peter B Pufall (Smith College)

Emily Burkman (Smith College)

4. Persistence in children's manner of drawing through early childhood: A longitudinal study

Peter B Pufall (Smith College)

Holly Ares Snyder (Smith College

Courtney Allen (Smith College)

5. Youth talking about hurting others: narratives of delinquent and non-delinquent adolescents

Masha Komolova (University of Utah)

Erzulie Coquillon (Boston College)

Cecilia Wainryb (University of Utah)

Paul Florsheim (University of Utah)

6. "I didn't want to hurt her feelings, but I can't always play just with her.": The role of perspective in children's and adolescents' construals of exclusion

Beverly Brehl (University of Utah)

Masha Komolova (University of Utah)

7. Exposure to violence, morality, and revenge

Roberto Posada (University of Utah)

Cecilia Wainryb (University of Utah)

8. Adolescents' social reasoning about exclusion and rights

Melanie Killen (University of Maryland)

Alexandra Henning (University of Maryland)

David Crystal (Georgetown University)

Martin Ruck (City University of New York)

9. Speech-gesture mismatch as an index of transitional understanding and receptivity to training in a social concept

Israel M Gross (Northeastern Illinois University)

Ruth B Church (Northeastern Illinois University)

10. The development of verb constructions: A comparative analysis of head start and middle class children

Enila Cenko (Clark University)

Nancy Budwig (Clark University)

Juan Hu (Clark University)

Melissa Smith (Clark University)

Shawn Goodspeed (Clark University)

11. The relationship between young adults' risk taking behavior and their understandings and evaluations of the socio-moral aspects of risk taking behavior

Leigh A Shaw (Weber State University)

Eric Amsel (Weber State University)

Josh Schillo (Weber State University)

Brooke Bosgieter (Weber State University)

Jamie Garner (Weber State University)

Michael Thorn (Weber State University)

12. Metaphors-in-genres: Bakhtinian perspective on the messiness of everyday constructions of sexuality and gender

Maja Ninkovic (City University of New York)

13. Symbolic development: Are children seduced by color iconicity or faithful to symbolic intent when interpreting graphic representations?

Lauren J Myers (Penn State) Lynn S Liben (Penn State)

14. What is art? A developmental analysis of how children construct the concept of art

Jose Devincenzo (National Louis University) Mariley D Leme (Faculdade Italo-Brazilera)

Marion Kissane (National Louis University)

15. Mental image and socialization of hospitalized children with severe illness

Maria Judith Sucupira Da Costa Lins (Universidade Federal Rio De Janeiro)

Ana Luiza De Araujo Malheiros (Universidade Federal Rio De Janeiro)

Vanessa Rodrigues de Lima (Universidade Federal Rio De Janeiro)

16. The role of shared practices in distinguishing an intention from a desire

Timothy P Racine (University of Manitoba)

William Turnbull (Simon Fraser University)

17. Personality assessment through movement: Elements of effort and five factors of personality

Silvia Avila (Northeastern Illinois University)

18. Concepts of physical and neurobehavioral disorders: Does familiarity breed understanding?

Judith L Newman (Penn State Abington) Nicole Jones (Penn State Abington)

19. Humor and play, an aim for coexistence in conditions of poverty

Hernán Sánchez (Universidad del Valle)

Rebeca Puche (Universidad del Valle)

20. Drawing and reading simple maps in four-year-olds: Exploring a new symbolic domain

Diana Leyva (Clark University)

Marianne Wiser (Clark University)

Carissa Ekholm (Clark University)

21. Young children's understanding of their mothers' attitudes towards ethnicity

Silvia Guerrero (Universidad Complutense de Madrid)

Ileana Enesco (Universidad Complutense de Madrid)

Virginia Lam (University of East of London)

Laura Jiménez (Universidad Complutense de Madrid)

6:30-7:30 Gallery REC2 Reception

Reception (sponsored by Elsevier Science, Publishers)

9:00-10:30 Ches II SY08 Symposium Session 8

#### Transgression and transformation: Thresholds to creativity

Organizer: Julia Penn Shaw (SUNY Empire State College)
Discussant: David W Kritt (CUNY College of Staten Island)

With creativity there is always a limit, a bound, a border—else how could the new emerge? But at the point a limit is defined, it is crossed: The limit becomes a threshold for new creative space. If, however, the crossing is only in the mind, then is it truly into a new creative space—or must the mental image become manifest to be declared as creative? Or, when society transfigures transgression as artistry, is it still a limit (transgression) or has it become an opportunity?

This symposium looks at thresholds for creation: artistic, psychedelic, and developmental: When does the crossing of a bound—a transgression—become a transformation into the creative. Is it enough that through art, drugs, or life-altering experiences one reinvents his/her view of reality? Does the reality that one views also have to change to match the new perspective? Is the new view of reality a transformation in and of itself, or are there additional components of the transgression into new space that need to be present for transformation to be significant?

Each author approaches these questions differently. The first author offers a comparison between the artist's permission to transgress in the ancient Polynesian context, and the development of an artistic consciousness in Western society. Are they similar in that the individual recognizes that creative expression is the only sanctioned avenue to transgression?

The second author builds the case that when the world of the self changes, reality itself changes. A psychedelic experience has been identified by some as one venue for change in identity, in place in the world, and in worldview that constitute the new reality. Discussed in this context is whether the path to such life-changing events requires passage through prior portals as necessary preparations.

The third author investigates systematic transgressions of our conventions of time and space in personal symbols. Additional focus follows on changes to personal symbol systems across life developmental frames. The initial transgressions in dimensions become sources of flexibility for organizing symbols in both temporal and spatial schema, sources of new interactions with the environment.

A common thread between these three presentations is that what appear to be transgressions provide epistemological diversity, foundational for more flexible personal and interpersonal world views.

Creative transgression and the development of artistic consciousness

Nicola Martinez (SUNY - Empire State College)

Psychedelics: Opening the "doors of perception"?

Kimberly Hewitt (SUNY - Empire State College)

Breaching the boundaries of time and space

Julia Penn Shaw (SUNY - Empire State College)

9:00-10:30 Ches III PS09 Paper Session 9

#### Social cognition and social relations

Chair: Herb Saltzstein (CUNY Graduate School)

Self-compassion: A healthier alternative to high self-esteem

Kristin D Neff (University of Texas at Austin)

Roos Vonk (Nijmegen University)

Recently, criticisms have been made of the self-esteem construct due to its potentially egoistic and narcissistic nature. This presentation will define an alternative construct termed "self-compassion." Self-compassion entails being kind and understanding toward oneself in instances of pain or failure rather than being harshly self-critical; perceiving one's experiences as part of the larger human experience rather than as isolating; and holding painful thoughts and feelings in mindful awareness rather than over-identifying with them. Self-compassion confers many of the same benefits as high self-esteem in that it provides positive self-affect and a strong sense of self-acceptance. However, these feelings are not based on performance evaluations of the self or comparisons with others. Rather, they stem from recognizing the flawed and vulnerable nature of the human condition, so that the self can be seen clearly and extended kindness without the need to put others down or puff the self up. Moreover, selfcompassion integrates feelings of self-acceptance with recognition of social relatedness and emotional equilibrium in a unique way. Empirical evidence will be provided demonstrating that self-compassion is a better predictor of healthy self-related processes - such as self-esteem stability, contingent self-esteem, narcissism, anger, and social comparison - than is global selfesteem.

Developmental connections among social cognition, gender, and schooling: Conceptual and methodological challenges

Sandra Bosacki (Brock University)
Stacey Horn (University of Illinois at Chicago)
Karen Drill (University of Illinois at Chicago)

Building on Kohlberg's (1966) seminal paper on the cognitive-developmental analysis of children's gender-roles and attitudes, within the framework of social-cognitive developmental theory, this paper will address the main question of how children and adolescents come to know, and learn to live with their gendered selves. That is, how do children and adolescents learn to think of themselves as gendered beings within the context of social and self-relationships? Specifically, we will build on Kohlberg's (1966) analysis by discussing how educational and developmental research over the past 40 years has furthered discourse about theory, methodology, and practice in gender and sociocognitive development. We argue that the child's emerging understanding of her/himself as a gendered being is part of a complex, developmental process that is dynamic and co-constructed within a community of minds. We end the discussion with future research questions to guide developmental research with precise, conceptually sound definitions, respectful and accurate research methods, and meaningful dissemination.

Children's eyewitness testimony as moral decision-making: A replication and extension

Toni Spring (CUNY Graduate School)
Herb Saltzstein (CUNY Graduate School)
Roger Peach (CUNY Graduate School)

The major aim of the studies reported here was to investigate children's eyewitness testimony from a joint developmental (Piagetian) and decision-making (Signal Detection theory) point of view. The overarching hypothesis is that as children develop, they increasing view false positives (falsely accusing someone) worse than false negatives (failing to identify the perpetrator) and this is reflected both in their eyewitness performance and stated beliefs. Our previous research showed that young children (ages 6-9) are not only less discriminating between a perpetrator ('perp') and foils, but also use a less stringent criterion (as measured by the signal detection parameter of bias) for identifying the 'perp' than do older children (11-14) and especially adolescents (15-17) but only when morally-relevant actions are involved. The research reported here (involving children ages 7-9, 10-12, 13-14) confirms this developmental trend in two communities, but also shows strong community differences in bias. Children from a lower SES community used a more lenient decisional criterion (incurring more false positives) than did those from an upper-middle SES community. Beliefs about false positives and negatives followed the predicted developmental course, but only in the lower-class community.

#### Parental beliefs about children's representational development

Gregory S Braswell (Illinois State University)

Parental beliefs are an often overlooked but significant component of the contexts in which children develop. The present study investigated parental beliefs about three domains of representational development (drawing, make-believe play and reading) via a questionnaire administered in paper and Internet-based versions. Responses by 136 participants demonstrated numerous correlations between parental beliefs and both children's and parents' behaviors. For example, believing that make-believe play is important was positively correlated with how often parents reported joining their children's play and encouraging their children's play. To give another example, how often children drew was related to how often parents encouraged drawing and the extent to which parents provided drawing materials. The data however yielded few correlations between naive theories of representational development (i.e., believing that skills emerge through maturational, social or constructivist mechanisms) and what parents believe and do. Overall, the results provide a first step toward understanding the role of parental beliefs in multiple domains of children's representational development.

#### 4- to 11-year-old children's understanding and portrayal of facial expressions

Hanns Martin Trautner (University of Wuppertal)
Patricia Wagenschuetz (University of Wuppertal)

409 4- to 11-year-old children (211 girls, 198 boys) participated in an experimental study that tested their understanding and portrayal of four facial expressions: happy, sad, angry, surprised. Subjects were randomly distributed to three groups: (1) drawing from memory, (2) copying, (3) copying and drawing from memory. The order of facial expressions was systematically varied within groups. In addition, all children were asked to identify the four facial expressions from photos. For each expression, drawings were (a) assessed concerning shape of mouth, eyes, and eyebrows, and (b) judged by four independent adult raters who

had to identify the depicted expression. More than 90% of the children at all ages were able to identify the four facial expressions on photos, and, except for anger, to copy them from drawings. However, the extent to which the drawings from memory expressed the emotion in question varied significantly (happy: 92%; sad: 75%; surprised: 55%; angry: 10%). Over age, a linear increase in children's ability to depict each facial expression and systematic changes of the shapes used to depict facial expressions were observed. The age changes are considered in the context of children's developing declarative and procedural knowledge.

Assessing music video exposure and adolescent socio-cognitive schema

Blake Te'Neil Lloyd (Pennsylvania State University Delaware County)

This study developed and tested a new measure to determine whether adolescents use different cognitive schemas to process the information depicted in music videos. Factor analysis (n=495) of an adolescent self-report instrument, the Music Video Influence Measure (M-VIM), yielded two constructs that were named Proactive Social Schema and Reactive Social Schema. A second objective was to investigate whether differences in adolescent cognitive schemas are associated with adolescent social competence. Bivariate and canonical correlations show moderate relations in comparing the M-VIM cognitive schemas with adolescent reports of their own social competence and teacher ratings of adolescents' social competence. Implications of these findings for the development of preventive interventions during adolescence are discussed.

9:00-10:30 Loch I SY09 Symposium Session 9

### Developmental psychology in Brazil: Mapping research themes and socially relevant issues

Organizers:

Dominique Colinvaux (Universidade Federal Fluminense) Lino de Macedo (Universidade de São Paulo)

The symposium focuses on developmental psychology in Brazil with the aim of outlining a general picture of current research studies carried out in the area. Since the 1970's, a growing number of these studies have been presented at international events, such as the ISSBD meeting; as from the 1990's, researchers from Brazil as well as other Latin American countries appear to have chosen the JPS annual meetings as a privileged forum for international exchanges. However, a great many other studies are not submitted and remain unknown to scholars of other countries. Therefore it seems appropriate to present the main trends of Brazilian research in developmental psychology and to analyse their links to the social-economic features and problems of the country.

The symposium includes four papers. The first one, by Vasconcellos, Sperb & Clark, starts by analysing Latin-American and Brazilian participation in the JPS meetings since 1999, when the 29th Annual Meeting was held in Mexico city. Findings show the distribution of Latin-American researchers across countries and regions, as well as the main themes and issues addressed in these studies.

The second paper, by Marturano, focuses on developmental psychology research that is concerned with understanding and management of social problems in Brazil. Drawing on a knowledge exchange cycle that brings together researchers and the broader community, the

paper points out strengths and weaknesses of developmental psychology research to help improve social practices and guide social policies.

The third paper, by Colinvaux & Macedo, looks into the more than 340 papers presented at the V Meeting of the Brazilian Society of Developmental Psychology, held in September 2005 in São Paulo. Analysis is two-fold: on one hand, it outlines the main research trends and themes and, on the other, it builds on Marturano's findings in order to identify the main social issues addressed in research.

The fourth paper, by Sodre & Dessandre, examines intervention programmes carried out in rural communities, that aim at promoting social development as well as strengthening their traditional way of life. Analysis goes toward showing the relation between human developmental processes and the model of economic development of the country.

Developmental psychology in Brazil and the Jean Piaget Society

Vera Vasconcellos (Universidade do Estado do Rio de Janeiro) Tania Maria Sperb (Universidade Federal do Rio Grande do Sul) Amanda Clark (Universidade do Estado do Rio de Janeiro)

Developmental psychology in Brazil: Research on socially relevant issues Edna Marturano (Universidade de São Paulo)

Research trends of the 5th Biennial Meeting of the Brazilian Society for Developmental Psychology

Dominique Colinvaux (Universidade Federal Fluminense) Lino de Macedo (Universidade de São Paulo)

Cultures, identities and contexts of human development

Liana Sodré (Universidade do Estado da Bahia) Suely Dessandre (Universidade do Estado do Rio de Janeiro)

9:00-10:30 Loch II SY10 Symposium Session 10

#### Musical composition and improvisation in early childhood

Organizer Carolyn Hildebrandt (University of Northern Iowa)

In common usage, composition and improvisation are often treated as opposites. Music is either "composed" (from the Latin componere, to put together) or "improvised" (from the Latin improvisus, or unforeseen). But for most creative musicians, composition and improvisation are related processes that often flow one into the other. So instead of being opposites, they are more like two ends of a continuum. Like adult musicians, children use both composition and improvisation to create new music. Both processes can be described in terms of Piaget's concepts of assimilation, accommodation, and equilibration.

In "Young children's vocal compositions and improvisations," Hildebrandt and Harmon describe three types of vocal music spontaneously produced by young children: chants, recitatives, and songs. They then trace the development of invented songs in 3 to 7-year-old children, showing how they start with simple, repeated motives, then construct musical sequences and cadences, and then move on to larger forms such as verses and refrains.

In "Young children's instrumental compositions and improvisations," Hildebrandt and Yoshizawa describe three approaches used by first and second grade children to compose and improvise on pianos, xylophones, and metallophones with removable bars. The first approach is guided primarily by the eye and hand, the second primarily by some form of a priori notation, and the third primarily by the ear. The authors then trace the development of compositions and improvisations guided primarily by the ear, including songs composed from rhythmic and melodic improvisations on "Rain, Rain, Go Away" and "Twinkle, Twinkle, Little Star."

In "Integrating music, language, and literacy in constructivist classrooms," Van Meeteren describes how song lyrics can be used as material for first and second grade reading instruction, and how they, in turn, can serve as a springboard to musical creativity. Examples of child-made songs for a series of poems are presented, along with an analysis of where the original motives came from, and how children adapted their music to fit the poems.

In "Music centers as a context for learning in constructivist classrooms," Yoshizawa shows how children take ideas and concepts they have learned in large-group music lessons and apply them in classroom music centers. She describes how pairs of first and second grade children engage in teaching, learning, practicing, composing, improvising, arranging, reading, and writing music for xylophones with removable bars. She then analyses the children's musical compositions and improvisations as well as their social interactions (sharing, negotiating, rule making, and conflict resolution).

Young children's vocal compositions and improvisations

Carolyn Hildebrandt (University of Northern Iowa) Gwen Harmon (Freeburg School)

Young children's instrumental compositions and improvisations

Carolyn Hildebrandt (University of Northern Iowa) Sonia Yoshizawa (University of Northern Iowa)

Integrating music, language, and literacy in constructivist classrooms

Beth Dykstra Van Meeteren (Freeburg School)

Music centers as a context for learning in constructivist classrooms

Sonia Yoshizawa (University of Northern Iowa)

10:30-10:45 Break

10:45-12:00 Ches II PL05

Plenary Session 5 – Ellen Winner

### The development of giftedness and creativity in the visual arts: What would Piaget have said?

Ellen Winner (Boston College)

Typical 3-year-olds and recognized 20th century artists often produce similar kinds of paintings – nonrepresentational works that appear expressive, free, and colorful. The similarities between their works has sometimes led parents and the art world to believe that typical 3-year-olds are abstract expressionist prodigies, and has led them to try to profit financially from their paintings. However, abstract painters did not begin to paint as abstract expres-

sionists as children. The juvenilia of artistic prodigies do not resemble the works of abstract expressionists but rather the works of artistic savants. Instead of playing freely with form and color, prodigies and savants draw in a meticulously realistic manner, often specializing in one subject matter (horses, buildings), and often insisting on using only pencil and eschewing color. I will explore similarities and differences in the works of these populations (comparing typical preschoolers with 20th century modernist painters; and comparing savants with prodigies). I will argue that the similarities are not trivial and reveal much about the underlying cognitive processes. I will conclude by discussing the difficulty of accommodating savants and prodigies into Piagetian theory: these individuals seem to belie stage theory since they have one skill that is developed to the fullest, while all of their other cognitive abilities are much less developed, and in the case of savants their other abilities are below normal. Some researchers have tried to show how prodigies and savants really do demonstrate domain general stage development in a manner consistent with Piagetian theory, and I will discuss the limitations of these attempts. I will conclude by considering what preschoolers share with artists (playfulness, lack of concern with realism), and by considering how prodigies and savants show us the domain specificity and IQ-irrelevance of visual art talent.

12:00-1:30 Lunch

12:00-1:30 Potomac BOD2 Board of Directors Meeting (Potomac)

1:30-2:45 Ches II BOOK Book Discussion

## Discussion of Jean Piaget's "Possibility and Necessity: Volume 1, The role of possibility in cognitive development"

Discussants:

Keith Alward
Brian Cox (Hofstra University)
Carolyn Hildebrandt (University of Northern Iowa)
Ellin K. Scholnick (University of Maryland)

Toward the end of his life, Piaget undertook to clarify his theory of equilibration through an examination of the dialectic between children's discovery of potential possibilities for action and the regulation of possible actions through children's apprehension of necessity. Published in English posthumously as two volumes, this symposium will focus on *Volume 1: The role of possibility in cognitive development*. The experiments presented in Volume 1 describe the creative nature of children's thought, by tracing the stages in the generative procedures children use to invent possible actions as they work to solve problems which present transparent or obscure solutions or whose complex materials create a challenge. This series of studies suggest that the road to necessity lies through possibilities, as sooner or later, possibilities collide with reality, and the set of realizable possibilities becomes a necessary operational structure. Discussants will address the central issues posed in this volume including: 1) Piaget's proposal for procedural generation of possibilities as redress for insufficiencies within earlier formulations of his theory of equilibration. 2) Possibilities as potential sources of connections that can be generalized and regulated to form the basis of presentative schemes; 3) The role of illusory and real constraints on possibility in the development of thought.

1:30-2:45 Loch I SY12 Symposium Session 12

# The performing art of human development in educational, therapeutic and theatrical settings

Organizer/Discussant: Lois Holzman (East Side Institute for Group and Short Term Psychotherapy)

This symposium, composed of a multi-disciplinary group of youth practitioners, will present the view that human development is best understood as a performing art. This hypothesis derives from and has contributed to the relatively new approach known as performative psychology, in which human beings are seen as active creators of their development by virtue of the capacity to perform, that is to be simultaneously "who we are and who we are not." In this understanding of performance, not only are pretending, playing, and imagining seen as essential to emotional, social, and moral development, but all human activity is understood as performance. The idea that human beings are primarily performers (rather than, for example, behavers or thinkers) is the center of an emerging paradigm to which many hundreds worldwide are contributing, as evidenced in the proliferation of performance-based educational, youth development, therapeutic and community development programs

worldwide. In countries both rich and poor, professionals and paraprofessionals are creating programs that, though largely unrecognized and unfunded, are as innovative as they are effective. Performance theory is playing a greater role in education, the social sciences, and health and mental health, in particular, psychology, psychotherapy, anthropology, classroom discourse, teacher education, adult learning, nursing and medicine. Performance theory and practice recognize the emotional and social growth that occurs when people create together theatrically on stage, and they use theatrical performance techniques and models off the stage to support the expression of people's creativity and sociality in all areas of their lives. Three common human environments-the elementary school classroom, family therapy, and youth theatre groups will be examined as performance spaces that promote human development. The presenters are a developmental psychologist, a psychotherapist, and a university professor of early childhood education. Each will discuss the specifics of their setting and activities, traditional understandings of therapy, education and theatre in relation to learning and development, and their understanding of human development as a performing art.

The performing art of human development: From the theatre stage to the life stage Lois Holzman (East Side Institute for Group and Short Term Psychotherapy)

Multi-family therapy groups as a developmental context for special needs children Christine La Cerva (The Brooklyn Social Therapy Group)

Teaching and learning as imaginative activity

Carrie Lobman (Rutgers University)

1:30-2:45 Loch II PS10 Paper Session 10

#### Imagery and creativity

Chair: David Kritt (CUNY- College of Staten Island)

Writing wrongs and creating change: The role of imagination in an arts-based social justice literacy curriculum

Louise Ammentorp (Borough of Manhattan Community College - CUNY)

Imagination involves the cognitive ability to step out of one's immediate situation. This process is especially significant and takes on a new role in the context of struggle against injustice, where imagination acts as a mediator of the "everyday"; an abstract place to grapple with material conditions and their underlying causes and to develop solutions to real life problems. This paper focuses on a sixth grade project in Newark, New Jersey where the teacher combines a social justice literacy curriculum with meaningful artistic activity. The curriculum begins with a study of historic social movements as depicted in documentary photography and poetry. Students then take and develop photographs and write poetry and narratives to answer the question, "Where I live". Through conducting discourse analysis of class discussions and student work created as part of this project, the aim of this paper is to examine the ways in which participation in this arts-based social justice literacy activity encourages students to develop a deeper understanding of their socio-historical context, and the fundamental role of the imagination in the struggle for positive social change.

Creativity and volitional dissociation: A model of creative states

E B Keehn (Lifespan Learning Institute)
Paula Thomson (York University)

There are surprisingly few non-pathologizing models of creative states. This paper presents such a model by suggesting a link between states of non-traumatizing creative potentiality and the positive experience of 'volitional dissociation'. The model is informed by recent work in attachment theory, and neurological concepts of self-regulatory systems. Volitional dissociation captures the ability of the individual to recover, in a self-directed way, from the dysregulated states they sometimes encounter when absorbed in states of creative potentiality. Volitional dissociation also holds within it the capacity to self-regulate and re-regulate the nervous system, no matter how disorganizing, frightening, or disruptive the creative experience might be. Thus, volitional dissociation is the capacity to move in and out of perceptual shifts in a non-traumatizing or non-re-traumatizing fashion, and draws on a secure attachment base in the individual. Thus, artists, intellectuals and others who work from such a base can draw on constructive forms of volitional dissociation to create from rich, multi-dimensional states.

The development of visual and auditory imagery in young children

Anne M Mannering (University of Oregon)

This research examined static and dynamic visual and auditory imagery process in adults and young children. Static imagery was assessed by asking participants to (1) compare animal sizes and (2) compare the loudness of animal sounds. Dynamic imagery was assessed by asking participants to mentally match (1) the sizes of animals and (2) the loudness of animal sounds. In Study 1, with adult participants (N = 92), for the static visual and static auditory imagery tasks, size/loudness difference was negatively correlated with reaction time, and for the dynamic visual and dynamic auditory imagery tasks, size/loudness difference was positively correlated with reaction time. Performance on the within-modality tasks was unrelated, suggesting that within vision and audition the static and dynamic tasks were assessing disparate imagery processes. In contrast, performance on the two static tasks was related, as was performance on the two dynamic tasks, suggesting parallels between static and dynamic imagery across vision and audition. Similar reaction time patterns were observed for five year-olds (N = 8). In Study 2, 100 five-year-olds will complete the imagery tasks and an assessment of fantasy orientation in order to examine relationships between individual differences in imagery abilities, general fantasy-orientation, and creation of imaginary companions.

Young art students' early development: An interplay among purposeful work, affect, and knowledge

Susan M Rostan (Hofstra University)

A series of quantitative studies of the behavior associated with young art students' developing artistic talent (skills and art-making behavior) and creativity (personal expressions of visual information) examine the role of personal expertise in a student's development of problem finding, technical skill, perseverance, evaluation, and creative ideation. The studies clearly demonstrate the effects of advancing knowledge and suggest that the drawing situation (life or imagination) interacts with the relationships among the processes and assessments of the products. A case study of an student explores the young artist's commitment to a network of

enterprise—groups of activities (i.e., problem, projects, tasks) that extend over time – revealing the reasoning and motivation for continued work. The discussion of the early development of artistic talent and creativity thus articulates the yields of both quantitative and qualitative studies.

The neural and evolutionary basis of creativity in the arts

Jay A Seitz (City University of New York)

We propose that there are four fundamental kinds of metaphor that are uniquely mapped onto specific brain "networks" and present preliterate (i.e., evolutionary, including before the appearance of written language in the historical record), prelinguistic (i.e., developmental, before the appearance of speech in human development), and extralinguistic (i.e., neuropsychological, cognitive) evidence supportive of this view. We contend that these basic metaphors are largely non-conceptual and entail (a) perceptual-perceptual, (b) cross-modal, (c) movement-movement, and (d) perceptual-affective mappings that, at least, in the initial stages of processing may operate largely outside of conscious awareness. In opposition to our basic metaphor theory (BmT), the standard theory (SmT) maintains that metaphor is a conceptual mapping from some base domain to some target domain and/or represents class-inclusion (categorical) assertions. The SmT captures aspects of secondary or conceptual metaphoric relations but not primary or basic metaphoric relations in our view. We believe our theory (BmT) explains more about how people in the arts actually recognize or create metaphoric associations across disparate domains of experience partly because they are "pre-wired" to make these links.

2:45-3:00 Break

3:00-4:30 Ches II ISO4 Invited Session 4

#### Children's graphic inventions

Chair/Discussant: Steve Seidel (Harvard University)

At a young age children begin to show an appreciation for the symbolic function of pictures and drawing. Children's theories of pictorial representation, drawing and art, develop from a convergent sequence of infant social activities, appreciation and understanding of rules of picture perception, slow mastery of representational rules that start out at variance with picture perception, and appropriation of cultural drawing conventions. Callaghan will trace the development of children's understanding of pictures as symbols through which meaning can be shared from its early social cognitive foundations in infancy to the construction of a theory that others use pictures to represent the world. Freeman will present a memorial tribute to John Willats' enormous contribution to our understanding of the origins and development of rules of pictorial representation. Pinto explores universal and contextual models of children's pictorial representations through an examination of the diverse cultural influences on children's representations of the human figure and depictions of close interpersonal relationships.

Children's theories of the relation between artist and picture

Tara C Callaghan (St. Francis Xavier University)

From an early age infants look to others for information about the physical and social world. Gaze following, joint attention, social referencing, intentional understanding and imitation

emerge before the first birthday, enabling infants to learn through others. The conceptualization of pictures as symbols that can be used to share meaning with others develops from these early social cognitive foundations. In this symposium I present evidence from my research to suggest that an appreciation of the relation between artist and picture begins in infancy and undergoes considerable refinement throughout early childhood. As early as 12 months, infants emulate the actions others take on pictures (Callaghan et al, 2004), adopting a stance toward pictures that matches that of the adult (referential or manipulative). At this stage, we propose that infants have an action-based understanding of picture symbols that they glean from the actions of others; they are tuned into how others act on these special cultural artifacts. Our recent field work has shown that emulation of the adult's stance toward pictures is found across a variety of cultures, including those where there are few pictorial symbols in the infant's environment. At a later stage in the development of pictorial symbol understanding, preschoolers will imitate the intent to represent when that intent has been directly modeled by an adult (Callaghan & Anton, 2005). Still later, they are able to read intent to represent from adult's indirect demonstrations, such as failed attempts. Our research indicates that by the age of 5 years, children are beginning to construct a theory that others use pictures to represent the world (Callaghan et al, 2005), and that others' mental states will influence their pictorial representations (Callaghan & Rochat, 2003). The findings from these studies clearly show that the roots for children's developing theory of the relation between artist and picture can be found in the onset of intentional understanding in infancy, but that fuller appreciation of the relationship is tied to the onset of mentalistic reasoning that is found toward the end of the preschool period.

How to draw a face, and why: A tribute to John Willats

Norman Freeman (University of Bristol)

John Willats died on 12th April 2006. This meeting is an entirely appropriate place and time to consider him and his works. He occupied a unique niche in the promotion of a scientific understanding of pictures and picture-making. Coming from a background in engineering and in art-making, he took a formal approach to the analysis of lines and line-combinations. His computational approach enabled him to pose incisive questions about the difficulty of drawing in a way that experimental psychologists had not, until then, quite managed to get into focus. That is the first half of this brief talk: what he achieved. The second half of the talk focuses on the ongoing work that his clarity inspired. For the last five years or so of his life, he and I repeatedly discussed extrapolations of his approach to answer a general question. How difficult is it for children to discover how to transform one shape into another when they want to represent something in two different ways? This progress report in John's honour is on how drawing things like faces proves a testing-ground to weighing up the competence-performance gap.

Children's drawing of close relationship in different cultures

Giuliana Pinto (University of Florence)

The present paper addresses the issue of the development of children's graphic representations of close relationship as expressed through drawing, in different cultures. A first section aims to answer questions about children's ability to produce and understand pictorial representation of human figures in relation to cultural norms. Children's meta-knowledge about drawing strategies and drawing products is also addressed. The second part explores the

way children conceive of close relationships, namely friendship, siblinghood and familial ties, focusing on the representational structures emerging in the drawings produced in different cultures. Results are presented and discussed according to the universalistic vs. contextual view of drawing development.

3:00-4:30 Ches III SY13 Symposium Session 13

# Relational meta-theory and developmental science: Exploring the uses of metaphor, hermeneutics, and worldviews in the study of human development

Organizers:

Bryan W Sokol (Simon Fraser University)
Willis F Overton (Temple University)

Discussant: Willis F Overton (Temple University)

The goal of this symposium is to situate contemporary work on relational meta-theory, or relationalism, in a broader intellectual and historical context, and to more generally explore the use of metaphor and other similar interpretive devices in developmental science.

Perhaps the most well known application of metaphoric tools in the sciences comes from Pepper's (1942/1961) seminal account on "world hypotheses," or what are now commonly referred to as worldviews, and the particular "root metaphors" associated with each. According to Pepper, the four major worldviews—formalism, organicism, mechanism, and contextualism—could be used conjunctively as a way to "box in" the objects of scientific inquiry and thereby achieve a richer understanding of them. As he claimed, "four good lights cast fewer shadows than one when the sun is hid" (p. 342).

At the same time, however, the idea to combine worldviews seems to contradict other aspects of Pepper's account, particularly his argument that worldviews offer distinct explanatory principles that are often in opposition to one another. Mixing worldviews, by this account, is akin to mixing metaphors. It is, quite simply, confusing, and as one critic suggests, even stands to "rupture the integrative consistency of each model" (Overton, 1994, p. 288).

Nevertheless, the prospect of understanding worldly phenomena, and particularly human behavior and growth, from multiple perspectives is intellectually compelling, not to mention one of the central goals of scientific dialogue. Relationalism offers a promising way to achieve this goal.

The contributors to this symposium explore different aspects of relational meta-theory, including: 1) its place among other competing worldviews; 2) its relationship to similar accounts in the philosophy of science, hermeneutics, and psychological theory; 3) its merits for drawing together traditionally disparate explanations of human development; 4) its potential demerits in privileging some perspectives and intellectual traditions over others; and 5) the importance of balancing relational epistemology with relational ontology. On this final point, promising work in hermeneutic philosophy, particularly Gadamer's view on play, will be discussed.

The limits of relationalism: Do "good fences make good neighbors"?

Bryan W Sokol (Simon Fraser University)
Jack Martin (Simon Fraser University)

World Views: Who are the viewers, where do they stand, what can they see? Ellin K Scholnick (University of Maryland)

Art and play in Hans-Georg Gadamer's phenomenology of understanding James Dougal Fleming (Simon Fraser University)

3:00-4:30 Loch I PS11 Paper Session 11

#### Self and identity

Chair: Michael Nakkula (Harvard Graduate School of Education)

Skunks, puppets, and human beings: Exploring young people's understanding of personal and kind identity

Jesse Phillips (University of British Columbia)

Taking its cue from one of the oldest of the old philosophical discourses—the relationship of one's body, and all of its determinations, to selfhood—this paper is meant to explore the possible age-graded shifts in how young people, when presented with separate stories that describe three ontologically distinct "objects" as either a kind of thing, on the one hand, or as an individual, on the other, ordinarily understand the persistent identity of these "objects" in the face of change. Trading upon earlier work by Gelman, (2003), Atran (2002), and Keil (1989), as well as Piaget (1983), the program of research to be reported on here means to get clear about the diverse and changing ways that young people reason about how the supposedly essential features of "objects" belonging to three ontologically distinct categories—categories that are standardly referred to as "things of a natural kind," artifacts, and persons—and their relation set limits upon imagined continuities and discontinuities of various types of identity. The findings revealed that when young people were presented with tasks that required them to make judgments about the nature of "individual" and "kind" identity, participants, on average, tended to essentialize in a similar fashion when "objects" were described as kinds of things. However, when described as individuals, respondents were significantly less ready to countenance "essentialism," or at least the same brand of essentialism, in the separate matter of personal identity.

'Escape from freedom': Adolescent's developing conceptions of freedom and responsibility

Travis Proulx (University of British Columbia)
Michael Chandler (University of British Columbia)
Patrice Kong (University of British Columbia)

In our previous work dealing with conceptions of self-unity across contexts, age-graded variations were observed whereby culturally mainstream Canadian young people saw themselves as increasingly complex, context dependent polyphonies as they grew older. We suspected that these observed age-graded variations might be driven by adolescents changing efforts to arbitrate between the competing demands of freedom vs. responsibility. That is, we hypothesized that when adolescents are forced to reconcile their own 'good' and 'bad' behaviours, they would prove increasingly to understand their actions in ways that forgo personal freedom to escape personal responsibility.

In order to test this hypothesis, participants were asked to provide examples of 'good'

and 'bad' behaviours, and to separately explain why they acted in these contrary ways. Responses were coded into a 2x2 scoring scheme representing the presence or absence of both freedom and responsibility. In line with our expectations, participant responses suggests that when younger adolescents explain both their 'good' and 'bad' behaviours, they do so in a way that makes their pro-social and anti-social choices appear to be freely taken. Older adolescents, in contrast, viewed themselves as free and responsible only in regard to their 'good' behaviours, and saw themselves as neither free nor responsible when explaining actions they judged to be 'bad'. Neither pattern held for explanations of others' actions.

Investigating the interpretive theory of mind abilities of academically gifted children

Allison G Butler (Boston College) Joan M Lucariello (Boston College)

The purpose of this study was to extend our understanding of theory of mind (ToM) to an academically gifted population. Although theory of mind abilities have been studied in a number of special populations of children (e.g., children with autism, ADHD), little to no research has been conducted on the potentially unique ToM patterns of gifted students. We assessed gifted (n=42) and non-gifted (n=42) third graders' interpretative theory of mind (iToM) as it relates to the understanding of mixed emotions about an event. A differentiated view of ToM was applied such that reasoning about one's own mixed emotions (Intrapersonal iToM) and reasoning about others' mixed emotions (Social iToM) were seen as two distinct cognitive abilities. Children were randomly assigned to either the Intrapersonal iToM or Social iToM condition and then presented with four stories intended to evoke mixed emotional responses. Social competence and language ability (PPVT) measures were administered. Results on the relative strength of Intrapersonal and Social ToM within gifted children, compared to non-gifted children, and related to social competence, will be presented.

#### Constant creation of self

Tania Stoltz (Universidade Federal do Parana)

The process of consciousness construction of self is based on the Piagetian reference (Piaget, 1974a; 1974b; 1981; 1983). What this study proposes is the possibility of grasping consciousness of own existence aspects by means of the exercise of creative activity and of questionings starting at the accomplished activity. The subject expresses in a significant creative activity a lot more than he/she is aware of. The social interaction can take the subject to think about the relation between the different elements present in his/her work and its sense during the production of determined moment of his/her existence. With the subject's reflection about his/her creative process, its meanings and senses, it was possible to observe the consciousness not only of what was represented on the creation, but the consciousness of new possibilities of being, result of differentiations (possibilities) and of new integrations (necessities). The Piagetian theory offers an explanatory theoretical reference for the comprehension of the process of the construction of self. The subject only gets to know him/herself as long as the subject accomplishes his/her activity on the object (physical and social). This action allows a parallel construction of the object and of him/herself. Every advance in this knowledge depends on the grasp of consciousness of the actions performed on the object.

Artistic license in studying children: How social science imitates art in conceptualizing children's social experience

Cindy Dell Clark (Pennsylvania State University)

This presentation uses the artwork of prominent artists as metaphors for epistemological and ontological issues inherent to research about children, especially research examining children's development within sociocultural domains. Using paintings made by Seurat, Degas, Picasso, Monet, and others, issues such as perspectivism and emergence will be rendered graspable in visual terms, enabling a clear discussion of the issues involved. Calder's two sculptural forms, the stabile and mobile, will be considered as well, as metaphors for modeling dynamic social interactions in which children take part. Ethnographic work on childhood participation in cultural ritual, during festival (Easter, Christmas and Halloween) and as rituals of coping and repair (in chronic illness), will be considered through the lens of each "artistic" approach. Artists contribute ways of seeing and rendering complex, dynamic phenomena, and thus provide valuable schemas for regarding the rich intricacy involved when studying complex topics, such as children participating in culture.

Painting of emotional themes as markers of psychosocial adjustment in primary school children

Teresa Blicharski (Laval University)

The primary school serves as a micro-society where children learn particular social roles. This work examines differences in socio-emotional and cognitive components of children's social understanding using painting activity and discourse describing artistic productions. Teachers' assessments of 109 school-aged children revealed five modes of social adaptation: Turbulent, Dominant, Competent, Timid or Withdrawn. Analyses of graphic parameters of paintings did not differentiate the adaptation profiles. Colors were used differently when painting happy or sad themes and girls used more pink. However, Turbulent children produced sadder and less realistic paintings. Surprisingly, these paintings were often judged as more creative. Content analyses of interviews showed that Withdrawn and Turbulent children did not talk readily about paintings or feelings. This study illustrates how creativity workshops can provide an alternate means for reaching troubled children. When children have difficulty speaking, artistic expression serves a privileged mode of communication. Creativity workshops foster freedom of expression. For psychologists, such freedom provides access to children's understanding of their position in the micro-society of the classroom. Understanding how children subjectively see their world is particularly important in the construction of differential programs for prevention and intervention.

3:00-4:30 Loch II PS12 Paper Session 12

#### Creativity, cognition, and intersubjectivity

Chair: Peter B Pufall (Smith College)

Building creativity and literacy through art

Ruslan Slutsky (The University of Toledo)

Kathy Danko-McGhee (The University of Toledo)

Young children are generally spontaneous in activities that are art oriented. Art making is a natural developmental process that young children engage in to illustrate and explain the

world in which they live. Children can communicate thoughts and feelings in art before they develop more conventional means of expressing ideas and emotions in words. Starting with scribbles and building on the work done by the Reggio Emilia schools (Italy), we will reconceptualize the role art can have on creativity and literacy experiences of young children. We will also discuss the notion of '100 languages' and how these languages can serve as a springboard to creativity and literacy. Two art activities will be discussed to illustrate how each impacts creativity and literacy in young children.

Minsky, mind, and models: Juxtaposing agent-based computer simulations and clinical-interview data as a methodology for investigating cognitive-developmental theory

Paulo Blikstein (Northwestern University)
Dor Abrahamson (UC Berkeley)
Uri Wilensky (Northwestern University)

We discuss an innovative application of computer-based simulations in the study of cognitive development. Our work builds on previous seminal contributions to field, in which theoretical models of cognition were implemented in the form of computer programs in attempt to predict human reasoning (Newell & Simon, 1972; Rose & Fischer, 1999). Our computer model can both be a useful vehicle to illustrate the Piagetian theoretical model or to simulate it departing from clinical interview data. We focused in the Piagetian conservation experiment, and collected and analyzed data from actual (not simulated) interviews. The interviews were videotaped, transcribed, and coded in terms of parameters of the computer simulation. The simulation was then fed with these coded data. We were able to perform different kinds of experiments: 1) Playback the interview and the computer model side-by-side, trying to identify behavior patterns; 2) Model validation: investigate whether the child's decision-making process can be predicted by the model.

We conclude that agent-based simulation, activated alongside real data, offers powerful methods for exploring the emergence of self-organized hierarchical organization in human cognition. We are currently exploring the entire combinatorial space of all hypothetical children's initial mental states and activating the simulation per each of these states. From that perspective, our data of real participants become cases out of the combinatorial space.

The Three M's: Imagination, Embodiment, and Mathematics

Dor Abrahamson (University of California, Berkeley)

The objective of this paper is to call for research into the mechanisms and potential agency of imagination in mathematical reasoning and to propose an agenda for such research. Drawing on a broad spectrum of resources in philosophy, the cognitive sciences, embodiment theory, and mathematics-education research, I conjecture that by learning mathematics in environments that support engagement of imagination, students could tap this powerful cognitive tool to support the construction and effective application of concepts. The research objectives are to: (a) investigate the roles of imagination in mathematical creativity, learning, and problem solving, e.g., to explore whether mathematicians' images are idiosyncratic, culturally mediated, or some combination thereof; (b) ground an understanding of the roles of imagination in current cognitive-science theories and pedagogical perspectives; (c) develop methodology for evaluating students' access to imagination as a cognitive resource and their imaginative engagement in learning activities; (d) outline principles for the design of objects

and activities that encourage students both to engage in imaginative mathematical reasoning and, inter alia, to embrace imagination as an accessible cognitive resource; (e) design and build mathematical objects and create activities that encourage and guide utilization of imagination; and (f) research students' learning in these designed activities.

Taste judgments and orientation to validity

Kimberly Sheridan (Harvard Graduate School of Education)

Building on philosophical conceptions of taste, this study investigates issues of subjectivity and intersubjectivity in taste judgments and the development of taste. Using surveys and interviews, I look at how film fans engage with film and make taste judgments. Respondents' taste judgments are placed on a continuum of the degree to which they tend to focus on subjective (e.g. assertions of love of the film, accounts of personal responses to or connections with the film) or intersubjective validity (e.g. assertions of the worth of the film, explanations of why it should be valued). I discuss patterns of correlations between this orientation to validity and gender, educational background, conceptions of fandom, and attitudes towards critics, and show how different orientations to validity show different trajectories in the development of taste.

Relationships among color preference, creativity, and imagination

Shole Amiri (Isfahan University)
Samaneh Asadi (Isfahan University)
Safoora Akbari (Isfahan University)
Azar Etesamipour King (University of Maryland)

This research examined relationships among color preference creativity, and imagination in a sample of Iranian children. Participants were 240 children (4, 6, 8,10 year olds, 120 girls and 120 boys) in Isfahan, Iran. Color preference was determined according to procedures developed by Pitchford and Mullen. Measures of imagination were drawn from the work of Leevers and Harris. The children completed four pairs of drawings, creating one real and one impossible version in every pair. Creativity was assessed using the Torrance Tests of Creative Thinking. These data were analyzed using analysis of variance (Manova) and coefficient of correlation. The results showed significant differences in color preferences and also significant correlation between imagination and creativity. The results and implications of the findings will be presented.

A study of the relationship among creativity, imagination and academic fields in university students

Samaneh Asadi (University of Isfahan)

In this research the relationship among creativity, Imagination and Academic fields in University Students will be studied. 160 subjects in 4 groups from four academic fields (Human Sciences, Basic Sciences such as chemistry, technical engineering and art) will be selected quite randomly and equally, as participants of this study from University of Isfahan (40 students, 20 males and 20 females per group). The VVIQ and TCTT tests will be presented to them to assess their imagination and creativity. Using correlation, Results will be analyzed and discussed in terms of creativity and Piagetian theories.

4:30-4:45 Break

4:45-5:30 Harbor REC3 Terry Brown Tribute (Harborview Ballroom)

#### Terry Brown Tribute

Terry Brown, a remarkable Piagetian scholar, a former JPS President, and a good friend to many Society members, was tragically killed in an auto accident in July of 2005. Not withstanding other subsequent losses from within its ranks, the intervening months have given the Society sufficient time to mount a brief tribute to Terry. Consequently, the last moments of this conference program have been set aside to mark our collective loss. Several colleagues will share brief excerpts from Terry's written and other public works, and, as he would have insisted, wine will be poured.

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