THE NEWSLETTER

The Institute of Cognitive and Decision Sciences • University of Oregon • Eugene •March, 1996• Vol. 8, No. 2

1996 FRED ATTNEAVE MEMORIAL LECTURE

May 13, 1996, 3:30 P.M.
Gerlinger Lounge
University of Oregon

Professor Vilayanur S. Ramachandran
Department of Neurosciences and Psychology
University of California, San Diego

ILLUSIONS OF BODY IMAGE: WHAT THEY REVEAL ABOUT HUMAN NATURE

V.S. Ramachandran is professor of Neurosciences and Psychology at UCSD and Director of the Brain and Perception Laboratory. He also has a joint appointment at the Salk Institute of Biological Studies, La Jolla, California and with the Cognitive Sciences program at UCSD.

Ramachandran originally trained as a physician and obtained an M.D. from Stanley Medical College, where he was awarded gold medals in pathology and clinical medicine. He then received a Ph.D. in neurophysiology from Trinity College, Cambridge University in 1978 and for this work he was elected a Senior Rouse-Ball Scholar at Trinity. Before moving to La Jolla, he held appointments at Oxford University and Caltech (Pasadena) where he studied the development of binocular neural mechanisms in sheep and cats. His experiments revealed that the basic neural circuitry that mediates stereoscopic depth perception is present at birth and is specified largely by genetic mechanisms.

Ramachandran's research is concerned mainly with human visual perception and behavioral neurology (the study of patients with focal damage). He is on the editorial boards of several international journals and has published over 70 scientific papers in professional journals including three invited review articles that appeared in Scientific American. He also edited a four volume Encyclopedia of Human Behaviour (Academic Press) that

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INSTITUTE GAINS NEW MEMBER

Our newest addition to the Institute is Sara Hodges of the Psychology Department. Following is a short biography written by Sara which explains her area of interest and a little of her background. Welcome Sara!

Sara Hodges

I received my Ph.D. last year in social psychology from the University of Virginia, where I worked with Tim Wilson (my main advisor), Dan Wegner and Bella DePaulo. My main area of interest is social cognition, with a recurring theme of how people structure the information they use to construct social judgments. With Tim Wilson, I examined the effects of asking people to introspect about their attitudes—that is, to list the reasons why they feel the way they do about something. People don't always come up with lists of reasons that truly capture how they feel about an attitude object—the lists often aren't complete or really representative of their attitudes. However, once people have the list of reasons, something akin to a self-perception effect occurs, such that people assume that the reasons ARE representative of their attitude, and they then adjust subsequent reports of the attitude to be congruent with the reasons.

My dissertation looked at another way people structure information in making judgments. In it, I examined the effects of feature matching in successive choices. When people make judgments comparing two options that have some characteristics in common, and some characteristics that are unique (possessed by only one option), they have a tendency to match up the shared characteristics, and concentrate only on the unique characteristics that distinguish between the two options—in essence, canceling out

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Attneave Memorial Lecture

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was cited as "The most outstanding reference work for 1994, in the behavioral sciences" by Library Journal. In 1989 he was asked to deliver the presidential lecture at the annual meeting of the Society of Neuroscience and also received an award for "Outstanding Contributions to Visual Science" from the Optometric Vision Development Society of America. In 1995 he was invited to give the inaugural "Decade of the Brain" lecture at the Silver Jubilee (25th Annual) meeting of the Society for Neuroscience and the Kanizsa Memorial Lecture at Trieste, Italy. In 1996 he was invited to deliver the annual Weizmann Memorial Lecture at the Weizmann Institute, Israel; the D.O. Hebb Memorial Lecture at McGill University in Montreal and was elected a member of the Athenaeum in London.

Ramachandran is best known for his work on human visual perception and he has discovered several new visual illusions such as motion capture, stereoscopic capture, and the reduction of motion processing at equiluminance. These experiments have had considerable impact on both computational modelling and visual neurophysiology.

More recently, Ramachandran has begun investigating the behavioral correlates of neural plasticity including phenomena such as "phantom limbs." He has found that four weeks after arm amputation in human patients, sensations from the face are mislocalized to the missing phantom arm; indeed, there is a map of the hand on the face. The reason might be that when the hand area of the brain is deprived of sensory input as a result of the amputation, the sensory input from the face invades the vacated hand area. This implies a surprisingly high lability of neural connections in the adult human brain and challenges the long-standing dogma that no new neural pathways can emerge in the adult brain. The observation may thus have implications for the understanding and treatment of phantom limb pain and for recovery from stroke. For this work, Ramachandran received a gold medal in Neurology from the Institute of Neurology at the University of Madras, India.

In addition to his contributions to the professional literature, Ramachandran has also been actively involved in the public understanding of science and medicine. He has appeared in several television programs (PBS, BBC and German television) and his work has been featured in newspapers and magazines such as The New York Times, Discover, National Geographic, Time Magazine, and Life.

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New Member

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the shared characteristics. In my studies, I added a third option to a set of choices after the first two options had already been considered, in order to show that the shared characteristics stay canceled out even when they might be relevant in making later judgments. I'm continuing related research, including examining ways to get people to refocus on the canceled shared features, the effects of asking people to make similarity judgments before preference judgments, and maybe ultimately how feature matching and canceling of personal characteristics might affect self-evaluations.

One other area of interest is perspective taking—specifically looking at how people mentally control the cues they use to construct another person's perspective, and how cognitive load affects the use of these cues. I'm hoping to make some connections to the "theory of mind" contingent in the Institute with this interest.

I moved to Oregon in August, traveling the whole way from Charlottesville, Virginia by car. I had a good pair of models: Northwest explorers Lewis and Clark were both born just a few miles from where the University of Virginia is located (although I have to admit that I took advantage of the many tourist amenities that have sprung up across the country since they made their trip). I like Oregon so far, after having lived almost my entire life in the southeastern U.S. However, not to disappoint y'all, but I don't have much of an accent.

MAGNETIC RESONANCE IMAGING: FROM MIND TO MOLECULES
A SYMPOSIUM

May 17-18, 1996
100 Willamette Hall
University of Oregon

The Institute of Cognitive and Decision Sciences and the Institute of Neuroscience at the University of Oregon will sponsor a two-day symposium on Magnetic Resonance Imaging (MRI), showcasing the important questions that this powerful tool can address and the exciting breakthroughs that it has made possible. We have titled the symposium, "Magnetic Resonance Imaging: From Mind to Molecules" in recognition of the power that MRI gives us to image cellular, molecular, and biochemical events on the one hand and complex psychological processes on the other. Following is a tentative schedule. A final schedule will be sent out with titles of talks during April.

Friday, May 17
100 Willamette Hall

3:00 pm	Opening remarks
3:15	**Dr. Bruce Rosen** Massachusetts General Hospital
4:30	Reception

Saturday, May 18
110 Willamette

9:00 am	**Dr. Scott Fraser** California Institute of Technology
10:30	Break
10:45	**Dr. Jonathan Cohen** Carnegie-Mellon University and University of Pittsburgh
Noon	Lunch Break
1:30 pm	**Dr. Alan Koretsky** Carnegie-Mellon University
3:00	Break
3:15	Dr. Helen Neville, University of Oregon
4:45	Reception

POSTER PARTY!!!
June 3, 1996

The Institute's fourth annual Poster party, held to celebrate graduate student research, will take place from 4:00-5:00 p.m. in the Fir Room of the Erb Memorial Union on Monday, June 3.

Graduate students are enthusiastically invited to present posters (or other suitable media, such as handouts or videos) highlighting current research. We especially encourage the re-showing of posters presented at recent professional meetings. This is an excellent opportunity to both display and view the huge variety of research that is done by graduates within our university.

We hope that all graduate students will participate this year and make the fourth annual Poster Party an equally informative, valuable and fun event for everyone. Refreshments will be served.

Poster set-up will begin at 3:00 p.m. Art panels (basically, 4' x 6', double-sided, hard bulletin boards) and plenty of sturdy thumbtacks will be available. If any special equipment or supplies are needed, please notify Vonda Evans (vevans@oregon.uoregon.edu).

SEMINARS

Evolution/Theory of Mind

A class with neither a real name nor CRN, this informal weekly discussion group will meet Mondays from 9:00 to 11:00 a.m. in room 156, Straub Hall. Evolutionary psychology has been gaining attention in recent years as both a tool for increasing conceptual coherence and continuity among seemingly- disparate research areas as well as for presenting a much-contested challenge to the standard social sciences paradigm.

While most efforts to apply evolutionary theory to psychology have concentrated on its implications for cognitive science, this "seminar" focuses on the critical evaluation of attempts to integrate evolutionary theory with work in social cognition. The readings begin with overviews of basic issues in evolutionary psychology, then address the "Machiavellian Intelligence" hypothesis in primate social reasoning, and the contributions of this idea to understanding Theory of Mind. Some issues in the "heuristics and biases" literature and "cultural evolution" will also be addressed.

Credit (as a political science course) can be arranged; faculty (as well as graduate students not wishing to receive credit) are welcome to participate for either the entire term or on an occasional basis. A reading list is available via e-mail. The first meeting is April 8th. Please direct requests for reading lists (and any questions) to Ruth Bennett, at
rbennett@darkwing.uoreogn.edu.

Perspectives on Translation: Language, Literature, Cognition and Culture

a cross-disciplinary seminar
sponsored jointly by the

Institute of Cognitive and Decision Sciences
and
Center for the Humanities

Spring 1996
Wednesday 2-5 pm

co-coordinators:
Steve Shankman (English)
Tom Givón (Linguistics)

The transferring of experience from one knowledge system to another is a perennial problem that lies at the intersection of linguistics, cognitive psychology, cultural anthropology, literary studies, and artificial intelligence. Within either literary theory or cognitive science, the very same split of reductionist approaches can be broadly discerned. At one end, extreme universalists (a la J. Katz) hold that translation is a trivial matter, and that anything that can be said or experienced in one language/culture can be, in principle, rendered into another. At the other end, extreme relativists (a la Whorf and various post-Wittgensteineans thinkers) hold that real translation is in principle impossible, because "the same experience" never replicates itself fully across different historical or cultural contexts; or, for that matter, across different personal contexts. While such extremism may indeed be a useful point of departure, we are interested in looking into complexities that are not accounted for by either reductive position.

The seminar will dig into multiples of issues that bear on translation, approach them from various disciplinary perspectives. We will certainly discuss translation and:

*literature
*culture
*cognition
*artificial intelligence

But we will also try to raise the issues of metaphoric language and expert knowledge, as well as the thorny question of evocative meaning and the translation of form in poetry. In as much as possible, we will have guest speakers representing various disciplinary perspectives on translation.

SPRING COLLOQUIUM SCHEDULE

During the spring term the following people are scheduled to give talks at the Institute's weekly Colloquium Series. They are held in room 156, Straub Hall, 3:30 pm. Be sure to attend.

April 1	Rick Zinbarg
April 8	Jody Jensen
April 15	Ray Hyman
April 22	Institute Annual Meeting
April 29	George Evans
May 6	Doug Hintzman
May 13	Attneave Lecture (V.S. Ramachandran)
May 20	Leigh Tesfatsion
May 27	Memorial Day
June 3	Institute Poster Party

WORLD WIDE WEB ACTIVITY AT THE INSTITUTE

By Bruce McCandliss

During 1995-96 there has been a fair amount of activity on the world wide web related to the Institute that might be of interest to people who read this newsletter. The fruits of these labors include a set of pages describing the structure and basic nature of the Institute for Cognitive and Decision Sciences, which in turn link to many web pages describing the ongoing work of many institute labs and individual members. The Institute pages were initiated by a small committee of students and staff (Petr Janata, Brian Rakitin, myself, and Paul Compton) back in May of 1995 in the hope that once a few central Institute pages were set up, individuals and labs would contribute pages that would be linked in to form the central content of the Institute web site. We thought these web pages would serve as an excellent medium for keeping up to date on all of the various research activities of the Institute members and labs, once the whole thing got rolling. Since these pages went online there have been a lot of institute related pages linked in. I would like to briefly review the activity to date.

The central page welcomes the reader to the Institute web site **(http://hebb.uoregon.edu)**, and describes the structure and purpose of the Institute. This central page then branches out into three separate pages describing each of the three major research groups of the Institute: "Cognitive Neuroscience", "Language, Learning and Cognition", and "Social Cognition and Decision Making".

The Cognitive Neuroscience page describes the focus of this research group as "seeking to understand the neural systems related to basic cognitive processes, emotion, language, and attention" and currently has links to the Takahashi Lab, the Eyetracking Lab (Tomlin, Posner, Sereno), the Keele Lab, and the Human Brain Electrophysiology Lab (Tucker and Posner). Most of these lab links have been fairly well developed and provide information on ongoing activities, recent publications, and people associated with each lab. In addition, many of the scholars listed on this page contain links which provide further biographical and contact information. The Human Brain Electrophysiology lab also contains online documentation for various pieces of lab software, links to Electrical Geodesics Inc., and some interesting color pictures related to brain electrophysiology.

The Language, Culture and Cognition page describes this research group as "investigating the interplay between conceptual representations and linguistic representations". This page contains a list of scholars, links to individual researcher's pages, as well as a link to Jennifer Freyd's Dynamics lab. The Dynamics lab has some very well developed web pages that include an animated demonstration of representational momentum.

The Social Cognition and Decision Sciences page describes the three major research topics of this group, and has recently been updated by Bertram Malle. This page provides a list of scholars in the research group, contains a link to Malle's Social interaction lab, describes the new decision sciences research facility.

I foresee that these Institute pages will grow in number and diversity, and eventually serve as a rich source of information exchange between research groups, allowing Institute members to become more familiar with the activities and interests of their colleagues in other research groups. I think the fact that each individual page can be continually updated by each individual and easily accessed by others presents unique advantages for information exchange within the Institute, and at the same time allows students and researchers outside the Institute to stay informed of the various activities going on within this community.

Other Institute related web activity worthy of note has taken place between three Institute members and many U of O undergraduates. Bertram Malle, Jennifer Freyd, and I have each created web pages to supplement our undergraduate courses this past fall term. Generally, these course related pages were used to give students continual access to up-to-date copies of the course syllabus, paper assignments and lecture notes. Additionally, Jennifer and I initiated student discussion list-serve groups to provide extended opportunities for students to discuss course-related issues. Although a couple of faint groans could be heard during the initial weeks while they learned how to access the system, overall student reactions to the use of the web as a supplement to class material has been very positive. These course pages can be browsed by accessing the Psychology Department home page **(http://darkwing.uoregon.edu/~psych/)**, then following the links to either Psychology of Gender, Psycholinguistics, or Decision Making.

If you are new to web browsing and would like to check out the Institute's pages, obtain a copy of Netscape® Navigator (from cc public domain) and type in the address "http://hebb.uoregon.edu/". If you are in search of an easy way to construct your own web page, there are several university services available. The Academic WWW Publishing Service page contains a program for automatically creating a home page on darkwing **(http://ssil.uoregon.edu/)**. Any Institute members interested in linking in their lab's page or their individual pages to the Institute website should contact Paul Compton (webmaster@hebb.uoregon.edu).

INFERRING FUNCTION FROM (MESOZOIC) FORM

By Kent Stevens

While simplistic, it is informative to view the form of a living organism as representing a solution to the ecological problems for which it is adapted. If form follows function, can one infer function from form (even if that form is preserved as stone)? The very similar streamlining of mosasaurs and dolphins, or the forward-directed optic axes of many predators versus the laterally-divergent axes of prey animals are often cited. But form-from-function arguments do not take into account the idiosyncratic history of prior constraints on morphology (the distant initial conditions), limitations on variation due to genetic constraints (not all morphological variables are independent), and an especially insidious problem, our tendency to believe that a given biological structure "solves" a unique problem (or, at most, simultaneously solves a few discrete problems). Nonetheless, some investigations of the "purposes" of biological forms would appear meaningful despite the unknowable history of influences on the form.

I have been involved in two studies of dinosaur morphology which, in and of themselves, address rather narrow questions. But they also suggest deeper questions regarding the description of 3D form. One study is the first-ever measurement of the fields of binocular overlap in dinosaurs. Using models created for me by a paleosculptor (Garfield Minott, Toronto) I used perimetry techniques to map the binocular fields of several theropods (bipedal, carnivorous beasts such as *Allosaurus*, *Daspletosaurus*, *Tyrannosaurus, Troödon* and *Velociraptor*). The study showed two general trends, the increase in binocular field overlap with theropod evolution, and the morphological changes to accommodate greater binocular fields. The earliest carnivores, by my estimation had very narrow regions of binocular vision (about 5 degrees horizontally, yet enough, presumably, to confer selective advantage to those individuals that had differentially greater binocularity). Some of the more advanced predators had binocular field widths greater than 40 degrees (I am repeating the perimetry measurements with new, larger models to refine the maps).

While the early theropods had tall, narrow, slab-sided faces, the later ones tended toward depressed muzzles and eyes relatively elevated to provide peripheral (at least) vision above the nasal bones. Moreover, the orientation of the occipital condyle further suggests that the head was held with a downward tilt (producing a posture similar to someone sighting over their reading glasses). Perhaps not coincidentally, the shape of the theropod's binocular fields were consistent with providing maximum field width directly ahead when the animal's head was tilted downward.

A sensitivity study showed that reducing the height of the theropod's cranium anterior to the orbits has a greater effect on increasing the binocular fields than broadening the separation between the orbits. This may be counterintuitive: usually forward facing eyes is thought to be the hallmark of binocularity. In fact, modern raptors have very divergent optic axes (the eyes are splayed laterally) and yet excellent binocular vision. Even the rabbit, the prototypical prey animal, has some binocular vision.

Binocularity was achieved in some of the phylogenetic precursors of the theropods, and certainly is expressed in many modern birds (which may have derived from theropods), and of course was perfected independently by some mammals. Looking across taxa, it seems that the first task is to get the nose out of the way, and secondly to orient the eyes forward so that the optic axes are approximately parallel. The later task, by the way, is critical only if you have invested in a central fovea (many animals have an area centralis specialized for binocularity offset from the optic axis of the eye).

Given evolutionary pressure to provide internal volume anterior to the orbits (for nasal turbinates, olfactory organs and other respiratory structures, and structure for dentition), and posterior to the orbits adequate volume for the brain, all wrapped within an external shape conforming to hydro- or aerodynamics, and so forth, any given resultant facial morphology is obviously a compromise along many dimensions. Would it be feasible, and sensible, to attempt to titrate the primary dimensions of variability in facial morphology? William K. Gregory ("Our Face, from Fish to Man") delightfully tracks the ancient lineage of the 28 bones that comprise our cranium, and breezily argues that the resultant shape reflects the different purposes to which they have been put in evolutionary history. To proceed beyond purely qualitative descriptions would be useful.

As d'Arcy Thompson explored, many biological forms are related by smooth geometrical transformations (the concept is now termed "morphing" in computer graphics). Some paleontologists have used two-dimensional morphing, e.g. to show an ontogenetic sequence. To attempt to map between two complex volumes, however, is daunting. To appreciate this, consider starting with two identical, spherical lumps of clay. Someone then deforms one of them into a particular shape, but you don't get to see the history of deformations. You are then to replicate the final form using the second lump of clay. Clearly there are many possible "morphs" to make the second lump of clay resemble the first. The problem is all the more difficult if, rather than holding the volume of

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Inferring Function

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clay constant, some clay might be added or removed from the first lump during its "evolution". How then can one construct a mapping between the two, after the fact? New techniques in three-dimensional morphing may have significant application to the describing phylogenetic (and ontogenetic) development of a face. I am currently seeing whether that idea has more than (pardoning the pun) superficial merit.

To introduce a second avenue of study concerning dinosaurs, you might recall that sauropod dinosaurs are the ones (to quote a Monty Python skit) "thin at one end, much, much thicker in the middle, and thin again at the other end". The near absurdity of some of these beasts (one had a neck 35 feet long, more than half its overall length) has led to much amusement, more or less plausible artistic renditions, but little science. The near impossibility of doing anything with their fossilized bones except to either mount them in a staid, frozen position in a museum (and to leave it that way for half a century), or to store them disarticulated on metal shelves in the basement has left the basic biomechanics of the sauropods quite unexplored. Only two instances of careful examination of the limits of travel of the neck have been performed (when they were being remounted), and of these, only one has yet been published. Could a sauropod move its neck about like a snake, or was it more like a giraffe's (which is quite flexible laterally, so that it may chew on an itchy forelimb, but not very flexible ventrally, requiring instead that the animal splay its legs to depress its head to drink)? The two studies, applied to different genera of sauropods (*Cetiosaurus* and *Diplodocus*) drew rather different conclusions. For animals as monumental as sauropods were, we know very little.

As a participant in an NSF short course on Dinosaur Paleobiology two summers ago, I became aware of the difficulties that paleontologists face in studying the articulation of sauropod necks. They are heavy and brittle and often distorted (both twisted and compressed). They are also visually very complicated. The critical articular surfaces, where the bones of the neck bore upon one another as the neck flexed, were never described in any detail.

The paleontologist who held the short course, J. Michael Parrish, and I are now funded to study sauropod vertebral function, with a grant from the Dinosaur Society. Prior to this project I had been writing a graphical tool called DinoMorph whose purpose was to allow linear interpolation between articulated skeletal models (of dinosaurs, but not exclusively) representing related taxa. That software was modified to articulate two-dimensional models of different types of sauropod cervical vertebrae to examine the limits of dorsoventral flexion. Some basic conclusions regarding the functional roles of the pre- and postzygapophyses were presented at the annual meeting of the Society of Vertebrate Paleontology in Pittsburgh in November. We are now extending the software to articulate three-dimensional models in order to examine limits on lateral as well as vertical movement. We are also comparing the morphology of ratite and giraffe necks with those of sauropods.

In the sauropod cervicals study, the challenge has been to learn what aspects of the geometry permit, and limit, articulation. Those were then modeled and used to empirically gain some insight into how the original animals could pose. My expectation is that the study will reach a natural closure by the end of summer (and have produced two M.S. theses by then) and that we will then concentrate on the harder problems of describing facial morphology.

THE NEW HILL WING

The new location of the Hill wing (the physical location of the Richard J. Hill Program in Social Cognition and Decision Making) is in the southwest corner of Straub Hall. It is currently being remodeled and will house the following facilities (planned by fall of 1996):

Laboratory room for group studies (178/179)

This space is dividable into two separate rooms via sliding wall-to-ceiling dividers and further dividable into 6 cubicles via stand-up dividers. It will be equipped with a state-of-the art decision computer lab, allowing wireless stimulus presentation and response recording during natural social interactions in dyads and groups of up to 10. Audio-video recording devices are planned as well.

Control room (177)

Houses server for wireless microcomputers in group room and video/audio equipment used to record group room experiments

Single-person laboratory rooms (171, 173, 175)

Reception area and lounge (176)

For welcoming research participants and informal meetings between Institute members. Will house file cabinets, couch, coffee table, refrigerator, coffee maker

Graduate student/visitor office (172/174)

Houses two researchers.

Faculty office (170)

Houses two researchers, mainly for members of the Hill program who do not have an office in Straub Hall

WESTERN ATTENTION CONFERENCE
June 9-11, 1996

This year the Western Attention Meeting will be held on the Pomona College campus in Claremont, CA, hosted by the Claremont Colleges (The Claremont Graduate School, Scripps College, Pitzer College, and Pomona College).

Previous Western Attention meetings have been a valuable outlet for current developments in the field. This meeting will be entirely on the Pomona campus, with private rooms in a modern dormitory, a short campus walk from the meeting hall. Costs will be low (approx. $30/night for room and $25 for three meals per day) and access is through Ontario Airport, relatively uncrowded and close to the campus. Special airfares are being negotiated with Southwest airlines, and shuttles from the airport will be arranged for attendees. A special rate of $54/night is available at the Claremont Inn, also walking distance from the meeting hall, for those who prefer a full-service, four-star motel.

Claremont is 30 miles east of Los Angeles, well served by freeways, and convenient to Disneyland, beaches, the desert, and the San Gabriel mountains. June is typically cool, overcast, and smog-free, although Santa Ana conditions can bring very hot, clear weather. Claremont is a pleasant college town (sometimes described as being in a time-warp from the 1950's), and it has several good restaurants close to the campuses.

If you wish to be on the mailing list for the conference, please write Bill Banks at the Department of Psychology, Pomona College, Claremont, CA 91771, or send your address by e-mail to wbanks@pomona.claremont.edu. Brochures containing the program and forms for reserving meals and rooms will be mailed in late April.

Following is a tentative schedule of the conference.

SUNDAY, June 9
Morning session 8:45 AM

Yehoshua Tsal and Tal Bareket.
Effects of Attention on Localization of Stimuli in the Visual Field: Evidence for Attentional Receptive Fields.
Dominique Lamy and Yehoshua Tsal.
Task Demands Determine Superiority of Proximity vs. Non-Spatial Grouping in Perceptual Organization.

Break

MaryLou Cheal.
Does a Peripheral Cue Automatically Elicit Attention?
Bernard Baars.
A useful distinction between attention and consciousness.

Afternoon session 2:00 PM

Donald MacKay.
The Relation between Attention and repetition Deficits.
Bruce Milliken.
Attention, Repetition, and Control.
Lisa Maxfield.
Attention and Semantic Access: Prime Task Effects.

Break

Ann-Marie Bonnel and William Prinzmetal.
Dividing Attention between Separable Dimensions: Are Form and Color Independent?
William Prinzmetal.
The Phenomenology of Attention.

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Attention Conference

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MONDAY, June 10
Morning session 8:45 AM

F. Gregory Ashby, Leola A. Alfonso-Reese, and Umit Turken.
A formal Neuropsychological Theory of Category Learning.

Break

Robert Rafal, Tony Ro, and Harris Ingle.
Collicular Disinhibition from Saccade Preparation: Fixation offset Effects in an Antisaccade Task.
Shaun P. Vecera & Marlene Behrmann.
Spatial Attention Does Not Require Preattentive Grouping.
Alan Hartley, John Jonides, Patricia Reuter-Lorenz, and Edward E. Smith.
Aging, Working Memory, and Attention: Evidence from Neuroimaging.

Afternoon session 2:00 PM

David LaBerge.
Brain mechanisms of attentional emphasis
Michael Posner.
Attention and High-level Skills

Break

Nelson Cowan.
How much memory without attention? Lessons from New selective listening tasks.
Philip M. Merikle.
Perception with and without attention.

TUESDAY, June 12
Morning session 8:45 AM

George Sperling.
Computational Theory of Visual Attention.

Break

Harold Pashler and Eric Ruthruff.
Central Bottleneck: Structural or Strategic?
John Palmer and Jennifer McLean.
Visual Search: Large set-size effects do not reject models based on unlimited-capacity, parallel processing.

INSTITUTE TECHNICAL REPORTS

No. 95-1 "Brain Plasticity in Learning Visual Words"
by Bruce D. McCandliss

No. 95-2 "The Evolution of Human Language and the Primate Visual Processing System"
by T. Givón

No. 95-3 "The Effect of the Interlocutor on Episodic Recall: An Experimental Study"
by Connie Dickinson and T. Givón

No. 95-4 "Principal Components Analysis of the N400 Effect: Superimposed Brain Electrical Fields During Semantic Processing"
by Joseph Dien and Don M. Tucker

No. 95-5 "On the Modularity of Sequence Learning Systems in Humans"
by Steven W. Keele and Tim Curran

No. 95-6 "Hyperacuity in Early Vision: A Bayesian Reentrant Neuromorphic Model"
by Gerald S. Russell

No. 95-7 "Memory for Musical Tempo: Additional Evidence that Auditory Memory is Absolute"
by Daniel J. Levitin and Perry R. Cook

No. 95-8 "Comparing Retrieval Dynamics in Recognition Memory and Lexical Decision"
by Douglas Hintzman and Tim Curran

No. 95-9 "Neuronal Activity of Human Caudate Nucleus in Cognitive Tasks"
Yalchin G. Abdullaev and Konstantin V. Melnichuk

No. 95-10 "Difference Testing with DiffTest 3.8"
by Gil Osgood

No. 95-11 "A Review of Biological Factors in Autism: Implications for Cognitive and Social Development"
by Gina Gerardi

No. 95-12 "Attention and Representational Momentum"
by Amy Hayes and Jennifer F. Freyd

No. 96-1 "Recognition Memory and Modality Judgments: A Comparison of Retrieval Dynamics"
by Douglas L. Hintzman and David A. Caulton

No. 96-2 "Conflict, Target Detection and Cognitive Control"
by Michael I. Posner and Gregory J. DiGirolamo

No. 96-3 "The Time Course of Parietal Activation in Single-Digit Multiplication: Evidence from Event-Related Potentials"
by Markus Kiefer and Stanislas Dehaene

No. 96-4 "Anatomy, Circuitry and Plasticity of Word Reading"
by Michael I. Posner, Yalchin G. Abdullaev, Bruce D. McCandliss and Sara C. Sereno

No. 96-5 "Time Course of Activating Brain Areas in Generating Verbal Associations"
by Yalchin G. Abdullaev and Michael I. Posner

COGNITIVE SCIENCE ASSOCIATION FOR INTERDISCIPLINARY LEARNING

Hood River, Oregon
July 18 - 22, 1996

You are invited to the third annual conference of the Cognitive Science Association for Interdisciplinary Learning (CSAIL). The conference is modeled after the Interdisciplinary Conference in Jackson Hole, BASICS in Banff, and LOVE in Niagara Falls. The first two conferences were outstanding. Last year's conference program, along with additional information, is on the CSAIL home page: http://www.cgl.uwaterloo.ca/~pjolicoe/csail

Papers are invited on topics in cognitive science. Talks are 30 minutes and held in the morning and evening allowing plenty of time for leisure activities. There will be a poster session each afternoon, as necessary, before the talks. Papers will be considered on a first come, first serve basis. If you would like to present a talk or poster, please send 150 word abstract to Pierre Jolicoeur at the address below. The deadline for talk proposals is May 24, 1996. The conference registration fee is $100.00 and should also be sent to Pierre. The registration fee pays for the rental of the conference room and audio-visual equipment, daily catering of refreshments, and the banquet the night of July 21.

Details about the conference, lodging, transportation, and leisure activities in Hood River and the surrounding areas can be obtained from our web page (http://www.cgl.uwaterloo.ca/~pjolicoe/csail) or by writing Pierre Jolicoeur at the following address:

Pierre Jolicoeur
Department of Psychology
University of Waterloo
Waterloo, Ontario, Canada
N2L 3G1
(pjolicoe@cgl.uwaterloo.ca)

If you are interested in attending the conference, please register and make your airline and hotel reservations as soon as possible. The conference will be held at the Hood River Hotel. You may make your hotel reservation by calling 800-386-1859. Identify yourself as being with the CSAIL conference. This preliminary announcement has been posted in various places. If you know of anyone who might be interested, please pass this announcement along to them. We look forward to having a great conference and hope that you can attend.

SUBMITTING TO THE NEWSLETTER

When preparing an article for submission to The Newsletter that is more than a page long, please include your disk. It is possible to transfer both IBM and Apple data onto the Macintosh. Formatting suggestions (to save time after transferring, as well as to assure the formatting that you want): IBM—save in or convert to DCA format if possible, otherwise save as text or ASCII; Apple—Appleworks Word Processor files; and of course, Macintosh (Microsoft Word, Microsoft Works or MacWrite) can be accepted. For any questions on formatting, consult your reference manuals. Also, be sure to include the name of the relevant document(s) on the disk. You can give these disks either to that month's feature editor, or directly to Vonda at the institute. It will be returned as soon as it's been transferred, which, in some cases, can be a matter of only minutes.

THE NEWSLETTER
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