

The Sixth International Conference
on Event Perception and Action

Proceedings



August 25-30, 1991
Free University, Amsterdam
The Netherlands

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Instituted by the
International Society for Ecological Psychology

Organized by the
Department of Psychology
Faculty of Human Movement Sciences
Free University Amsterdam

Sponsored by
I.B.M. Netherlands N.V.
Royal Netherlands Academy for the Arts and the Sciences

Conference organizers:

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The conference organizers are indebted to the symposia organizers for their efforts: John Pickering and Timothy Johnston (Evolution and Action); Klaus Landwehr and Onno Meijer (Ecological Realism); Alan Costall and Ad Smitsman (Event Cognition); Bob Shaw and John Pittenger (Multiple Specification of Ecological Information); Claudio Carello and John Kennedy (Picture Perception); Jim Todd and Wim van de Grind (Motion Perception); Bill Warren and Stan Gielen (Optic Flow and Locomotion); Claire Michaels and Walther Ehrenstein (Perception-Action Compatibility); John Flach and Yves Guiard (Human Factors); Scott Kelso and Hermann Haken (Synergetic Approach to Pattern Generation and Pattern Recognition); Carol Fowler and Elliot Saltzman (Speech Production and Speech Recognition); Peter Kugler and George Kamps (Adaptability in Natural Measurement, Representation and Effector Systems); Tom Stoffregen and Claes von Hofsten (Exploratory Activity: Constraints and Opportunities); and Diane Berry and John Fentress (Social Affordances).

Pieter Jan Stappers is gratefully acknowledged for preparing the cartoons.

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PROGRAM

Sunday August 25

18.00-19.30 Registration and 'Get together' in the Park Hotel, Stadhouderskade 25, Amsterdam

Monday August 26

08.30-09.30 Registration at the Free University, Coffee and Tea

09.30-10.00 Opening

10.00-12.00 **Evolution and Action**

Organizers: John Pickering and Timothy Johnston

10.00 *Empowering the organism*

Brian Goodwin

10.30 *Rethinking biological and cultural evolution: Goodwin and Gibson*

Tim Ingold

11.00 *Socio-naturalism, epigenesis, and the development of representation*

Chris Sinha

11.30 *An ecological account of the evolutionary emergence of language*

William Noble and Ian Davidson

12.00-12.45 Poster Session

12.45-13.30 Lunch

13.30-15.30 **Ecological Realism**

Organizers: Klaus Landwehr and Onno Meijer

13.30 **Target Presentation:** *A realist account of the perceived order in nature*

Alf Zimmer

14.00 **First Reaction:** *The natural categories of ecological reality*

Bill Mace

14.20 **Second Reaction:** *Illusions and knowing what is real*

John Kennedy, Christopher Green, Andrea Nicholls, and Chang Hong Liu

14.40 **Third Reaction:** *On the relational nature of 'ecological realism'*

Jan Tamboer and Peter Heij

15.00 *Summing Up*

Klaus Landwehr

15.10 **General Discussion**

15.30-16.00 Tea Break

16.00-17.30 **Event Cognition**

Organizers: Alan Costall and Ad Smitsman

16.00 *Introduction: Michotte reassessed*

Alan Costall

16.10 *Studying the perception of naturally constrained dynamic events*

Sverker Runeson

16.35 *Visual perception of support surface rigidity and length from kinematic displays*

Thomas Stoffregen and Steven Flynn

17.00 *Tool-use in infancy: Perception of a higher-order affordance*

Lieselotte van Leeuwen and Ad Smitsman

17.30-18.30 Reception at the Free University

Tuesday August 27**09.00-11.00 Multiple Specification of Ecological Information?**

Organizers: Bob Shaw and John Pittenger

09.00 *Multiple specification of the environment: Issues to be resolved*
John Pittenger09.15 *Multiple sources of information in perception and action*
Dominic Massaro09.35 *Multiple specificity: An evolutionary argument*
Onno Meijer, Fons Blankendaal, and Cees Overbeeke09.55 *Unique versus multiple specification: A tolerance geometry
adjudication of the controversy*
Bob Shaw10.15 *The information-perception specificity hypothesis*
Michael Turvey10.35 **Discussion**

11.00-11.30 Coffee and Tea Break

11.30-13.00 Picture Perception

Organizers: Claudia Carello and John Kennedy

11.30 *Metric knowledge of three dimensional surface structure*
Francene Reichel and Jim Todd11.40 *Tactual perception of 3D scenes in 2D pictures*
Gunnar Jansson and Barry Hughes11.50 *Anamorphs: Locating correct or preferred viewpoints*
Margaret Hagen and William Mackavey12.00 *How we perceive figural incompleteness*
Franco Purghé12.10 *Dynamical constraints on pictorial action lines*
Lawrence Rosenblum, Helena Saldaña, and Claudia Carello12.20 *Pictorial cues of causality, cues of concreteness, and subject's
interests in causality, as favoring a special variety of illusory contours*
Paolo Bonaiuto, Anna Maria Giannini, and Marino Bonaiuto12.30 **Discussion**

13.00-13.45 Lunch

13.45-14.30 Poster Session

14.30-16.30 Motion Perception

Organizers: Jim Todd and Wim van de Grind

14.30 *Object motion and optic flow*
Eli Brenner14.54 *The perception of globally coherent motion*
Ennio Mingolla, Jim Todd, and J. Farley Norman15.18 *Spatial discriminations for motion-defined form*

D. Regan, S. Hamstra, X. H. Hong, K. I. Beverly, D. Glaschi, and A. C. Kothe

15.42 *Perceiving the spatial structure of differential motion*
Joe Lappin16.06 *The role of polar perspective for scaling depth from motion
parallax and binocular disparity*
Brian Rogers

16.30-17.00 Coffee and Tea Break

17.00-18.30 Meeting of the European Ecological Society

Wednesday August 28

- 09.00-11.00 **Optic Flow and Locomotion**
Organizers: Bill Warren and Stan Gielen
- 09.00 *Visual, vestibular, and proprioceptive judgments of self heading*
Ian Howard
- 09.30 *On algorithms from optical flow estimation to the recognition of intentions*
Hans-Hellmut Nagel
- 10.00 *Postural responses to visual scenes as a function of distance to the scene*
T. Dijkstra, Stan Gielen, and E. Argante
- 10.20 *Controlling approach*
David Lee
- 10.40 *Visual information and processes involved in goal-directed locomotion*
Michel Laurent and Benoît Bardy
- 11.00-11.30 Coffee and Tea Break
- 11.30-13.00 **Perception-Action Compatibility**
Organizers: Claire Michaels and Walther Ehrenstein
- 11.30 *Introduction*
Walther Ehrenstein and Claire Michaels
- 11.40 *Phase transitions in rhythmic arm movements under different stimulus-response configurations*
Marie-José van Riel, Peter Beek, and Piet van Wieringen
- 12.00 *Non-verbal interference under conditions of compatibility orthogonally varied*
Thomas Schulz
- 12.20 *Dimensions of comfort mode*
Endre Kadar, Oded Flascher, Richard Schmidt, Bob Shaw, and T. Morris
- 12.40 *The importance of self-perception in coupling perception and action*
Ruud van der Weel and Audrey van der Meer
- 13.00-13.45 Lunch
- 13.45-15.00 Poster Session
- 15.00-16.30 **Human Factors**
Organizers: John Flach and Yves Guiard
- 15.00 *Dynamic interactive computer tests of driving performance*
William Schiff
- 15.18 *Everyday listening, auditory icons, and technology affordances*
William Gaver
- 15.36 *Why does the skilled actor make it look so easy? Because it is!*
Alex Kirlik
- 15.54 *Ecological interface design: An initial empirical evaluation*
Kim Vicente
- 16.12 *Natural intelligence and artificial realities*
John Paulin Hansen
- 18.30-19.30 Reception by the Council of the City of Amsterdam in the Amsterdam Historical Museum

Thursday August 29

- 08.30-10.30 **Synergetic Approach to Pattern Generation and Pattern Recognition**
Organizers: Scott Kelso and Hermann Haken
- 08.30 *Introduction*
Scott Kelso
- 08.50 *Basic concepts of synergetics*
Hermann Haken
- 09.10 *Control variables underlying human arm and jaw movement*
Anatol Feldman, J. Flanagan, and David Ostry
- 09.30 *Patternings of relative phase in rhythmic coordinations within and between people*
Richard Schmidt and Michael Turvey
- 09.50 *The structure of the ground on which figures are perceived: Physical texture or cognitive field?*
Michael Stadler, Peter Kruse, and Sabine Pfaff
- 10.10 *Serial order as parallel articulation of higher-order invariants: An experimental analysis of pattern formation and practice conditions in a simple motor task*
Stefan Vogt
- 10.30-11.00 Coffee and Tea Break
- 11.00-13.00 **Speech Production and Speech Perception**
Organizers: Carol Fowler and Elliot Saltzman
- 11.00 *Using sound to solve syntactic problems: The role of phonology in grammatical category assignments*
Michael Kelly
- 11.30 *The nonlinear dynamics of categorical perception*
Betty Tuller
- 12.00 *Exploring the perceptual nature of the McGurk effect using an AXB discrimination task*
Lawrence Rosenblum and Helena Saldaña
- 12.30 *Language-specific effects on perception of discourse prosody categories by 2-4 month olds*
Catherina Best
- 13.00-13.45 Lunch
- 13.45-14.30 Poster Session
- 14.30-16.30 **Adaptability in Natural Measurement, Representation and Effector Systems**
Organizers: Peter Kugler and George Kampis
- 14.30 *Adaptability in natural systems: Syntactic, semantic, pragmatic?*
Peter Kugler
- 14.54 *Perception and life itself*
Bob Rosen
- 15.18 *Endophysics*
Otto RöSSLer
- 15.42 *Self-modifying systems in biology and cognitive science*
George Kampis
- 16.06 *Center of mass perception for the visual guidance of grasping: A GSD problem*
Michael Muchisky and Geoffrey P. Bingham
- 16.30-18.30 Poster Session, Coffee and Tea

Friday August 30

- 08.30-10.30 **Exploratory Activity: Constraints and Opportunities**
Organizers: Tom Stoffregen and Claes von Hofsten
- 08.30 *Detection of accretion/deletion of optical texture at occluding edges produced by eye movement with head immobilized*
Geoffrey Bingham
- 09.00 *Haptic space in infancy*
Phillippe Rochat
- 09.30 *Search strategies in learning to map perception and action*
Karl Newell and Vernon McDonald
- 10.00 *Exploring the world ahead of time*
Claes von Hofsten and David Lee
- 10.30-11.00 Coffee Break
- 11.00-12.30 **Social Affordances**
Organizers: Diane Berry and John Fentress
- 11.00 *Introduction*
Diane Berry
- 11.03 *Beyond social affordances: The flow of information in social kinaesthesia*
Arthur Still and James Good
- 11.23 *Early steps toward language: How social affordances educate attention*
Patricia Goldring (Zukow)
- 11.35 *Differentiating and evaluating same vs. other race individuals*
Leslie Zebrowitz and Joann Montepare
- 11.55 *Perception of emotional expressions as a function of distance*
Daniel Montello
- 12.07 *The implications of treating personality dispositions as social affordances*
Rueben Baron
- 12.27 *Conclusion*
John Fentress
- 12.30-13.15 Lunch
- 13.15-14.00 Poster Session
- 14.00-15.30 **Ball Skills**
Organizers: Peter Beek and Reinoud Bootsma
- 14.00 *Expertise and attunement to event kinematics in ball sports*
Bruce Abernethy
- 14.25 *The optics and actions of catching fly balls: Zeroing out optical acceleration*
Claire Michaels
- 14.50 *The visual guidance of catching*
Geert Savelsbergh and John Whiting
- 15.15 *Commentary*
Peter Beek and Reinoud Bootsma
- 15.30-16.00 Closing/Concluding Comments
- 16.00-17.00 Meeting of the International Society for Ecological Psychology
- 20.00-01.00 Conference dinner in the Flamingo Sun Lounge of Artis, the Amsterdam Zoo

ABSTRACTS