Perception, 2014, volume 43, supplement, page 1 – 183

37th European Conference on Visual Perception
Belgrade, Serbia
24 – 28 August 2014

Abstracts

Thursday

Publisher's note.
In the interests of efficiency, these abstracts have been reproduced as supplied by the Conference with little or no copy editing by Pion. Thus, the English and style may not match those of regular *Perception* articles.

The European Conference on Visual Perception is an annual event. Previous conferences took place in:

1978 Marburg (D)
1979 Noordwijkerhout (NL)
1980 Brighton (GB)
1981 Gouvieux (F)
1982 Leuven (B)
1983 Lucca (I)
1984 Cambridge (GB)
1985 Peñiscola (E)
1986 Bad Nauheim (D)
1987 Varna (BG)
1988 Bristol (GB)
1989 Zichron Yaakov (IL)
1990 Paris (F)
1991 Vilnius (LT)
1992 Pisa (I)
1993 Edinburgh (GB)
1994 Eindhoven (NL)
1995 Tübingen (D)
1996 Strasbourg (F)
1997 Helsinki (FI)
1998 Oxford (GB)
1999 Trieste (I)
2000 Groningen (NL)
2001 Kuşadasi (TR)
2002 Glasgow (GB)
2003 Paris (F)
2004 Budapest (H)
2005 A Coruña (E)
2006 St Petersburg (RU)
2007 Arezzo (I)
2008 Utrecht (NL)
2009 Regensburg (D)
2010 Lausanne (CH)
2011 Toulouse (F)
2012 Alghero (I)
2013 Bremen (D)

we present data from a gaze contingent object recognition paradigm where objects to be recognised are presented such that the participants are constrained to look only at specific image locations that could be either (i) a region that was, or (ii) was not previously fixated during the preceding learning phase. The results demonstrate a significant behavioural advantage when participants view previously fixated image regions compared to viewing image regions that were not previously fixated during the learning phase. These results suggest a functional role of eye movements to extract high resolution information from image features in the recognition process.

◆ **Looking at planar views during active object visual learning: moments of stability**

114 I C Lisboa[1], E Sousa[2], J A Santos[1,2], A F Pereira[1] ([1]CIPsi, School of Psychology, University of Minho, Portugal; [2]Centro Algoritmi, University of Minho, Portugal; e-mail: isabel.lisboa@psi.uminho.pt)

The planar bias in active object learning is a well-documented viewpoint selection preference: in adults, and infants, the proportion spent looking at planar views – viewpoints where flat surfaces are shown perpendicular to the viewer – deviates strongly from random selection. One hypothesis of the planar bias' functional role is that dynamic viewing around them is more informative – movements around planar views reveal more of the objects' structure; this hypothesis predicts more exploratory behaviours, for instance measurable in higher angular velocities of the main axis of elongation. We asked adults to manipulate 3D objects on a computer, using a mouse, for twenty seconds each, and recorded the object's 3D orientation and eye fixations (60Hz). We computed, per contiguous frames of dwell activity, inside a bin of the object's viewing sphere: duration, proportion of time with object not moving, mean angular velocity of the main axis, and number of saccades. Results show that counter to the initial prediction, viewing periods around planar views are more stable: duration is higher, time not moving is higher, main axis speed is lower, and there are more saccades. Put together, these findings suggest focused attention to planar views and learning of a static view.

[This research was funded by Fundação para a Ciência e Tecnologia (FCT) with Portuguese Government funds under the project PTDC/PSI-PCO/121494/2010 "Visual Object Recognition and Children's Self-Generated Object Views: Developmental Changes in Active Viewing" and under the project Scope: PEst-OE/EEI/UI0319/2014. AFP was also supported by a Marie Curie International Incoming Fellowship PIIF-GA-2011-301155.]

◆ **Scene priming and location priming in scene-object consistency effects**

115 N Heise, U Ansorge (Faculty of Psychology, Universität Wien, Austria; e-mail: nils.heise@univie.ac.at)

Object recognition within scenes is better for semantically consistent objects as compared to inconsistent ones (for example: Biederman, Mezzanotte, & Rabinovitz, 1982): This might be due to the fact that visual search is more efficient for consistent objects as they occupy expected places. If solely visual search is responsible for consistency effects, they might be weaker (1) with repeated object locations, and (2) with repeated scene backgrounds. In Experiments 1 and 2, locations of objects were varied within a scene to a different degree (one, two, or four possible locations), and consistency effects were studied as a function of progressive numbers of repetitions of the backgrounds. Because repeating locations and backgrounds could facilitate visual search for objects, these repetitions might alter the consistency effects by lowering of location uncertainty. We a significant consistency effect, but there is no clear support for a modulation of location priming or scene priming on consistency effects. On the other hand our data indicates that the consistency effect might be strongly depended on the eccentricity of the target objects.

◆ **Model for the categorization of bottled soft drinks using their silhouette**

116 C ArceLopera[1], A M Arboleda[1], K Okajima[2] ([1]Engineering Faculty, Universidad ICESI, Colombia; [2]Faculty of Environment and Information Sciences, Yokohama National University, Japan; e-mail: arcelopera.carlos@gmail.com)

In our daily life, we use our senses to acquire information about the objects that surrounds us. However, the information processing that allows the recognition and consecutive classification into categories of those objects remains unclear. In this study, we analyzed quantitatively and tested experimentally the visual properties of bottles silhouettes responsible for categorization in soft drinks. First, we took pictures of all personal bottles of soft drinks available in the local market. Then, we extracted the silhouette and analyzed its physical characteristics using a cluster analysis. The silhouette image analysis revealed the physical characteristics that separate the categories according to the real market.