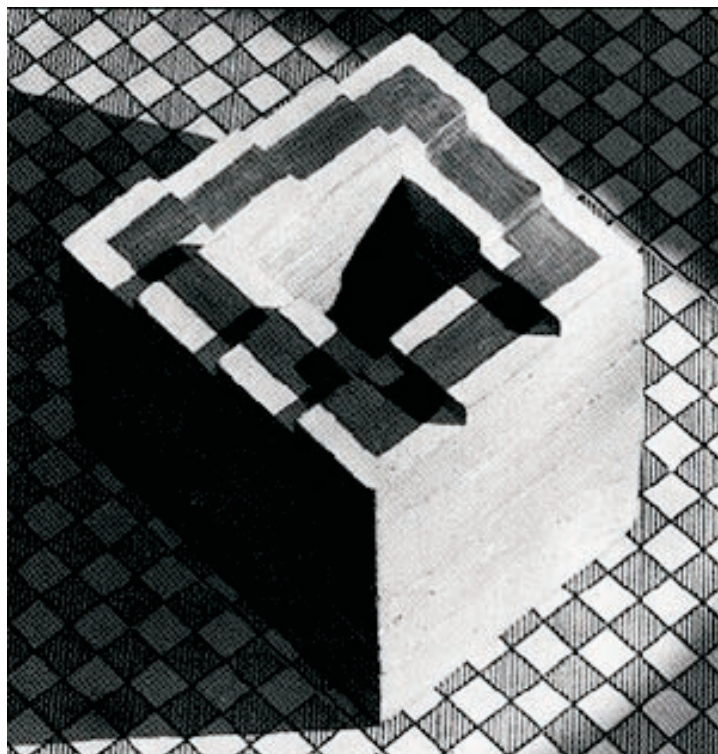


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*Bulletin of the
Applied Vision
Association*



Draft programme: Natural Images, Bristol
Call for papers: AVA postgraduate meeting, London
Call for papers: AVA Christmas meeting, Aston
References on Vision

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*AIM OF THE AVA: TO PROMOTE AND ADVANCE THE APPLICATION
 OF RESEARCH WORK IN ALL AREAS RELATED TO VISION*



Noticeboard



AVA on the Internet

The Applied Vision Association now has its own world wide web pages at:
<http://www.dmu.ac.uk/ava/>

The pages contain details of who is on the committee, contact emails, latest details on forthcoming AVA meetings and links to other vision related pages. There are also archives of abstracts from previous AVA meetings.

There is also an AVA anonymous ftp site at: *<ftp://hc.les.dmu.ac.uk>*

This site contains:

- a hyperspectral data set of natural scenes produced by Gavin Brelstaff (see <http://www.crs4.it/~gjb/ftpJOSA.html>).
- David Foster's bootstrap program for estimating the accuracy of a statistical estimate derived from a set of experimental data (see <http://www.vs.aston.ac.uk/Research/bootstrap.html>).

If there is anything else you think this archive should contain then let us know.

AVA and OPO Subscriptions

Membership for 1998/1999 will be as follows: ordinary members £18, student members £9. Those members who pay by standing order for the AVA and Ophthalmic and Physiological Optics please check that the correct amount is being paid to the AVA.

Editorial

This issue of the Bulletin contains details of a number of forthcoming AVA meetings. In particular, the AVA committee has decided that the AVA should subsidise the Postgraduate meeting on 11th November. The meeting is free to presenters and only £5.00 including lunch for everyone else. Do encourage young researchers to attend. If you have any comments on the Bulletin of the AVA then do contact me: mscase@dmu.ac.uk

Deadline for copy for the next Bulletin - 16th October 1998

Geoffrey J. Burton Memorial Fund

The fund was established in 1986 with the aim of providing financial assistance to students (postgraduates studying for a higher degree or first-year postdoctoral junior scientists) based in the UK travelling to any conferences or meetings at which they will be presenting a paper or poster. Donations to the fund can be directed to the AVA secretariat and cheques etc. should be made payable to "The Geoffrey J. Burton Memorial Fund".

The maximum award to any one individual is £400.

The AVA Committee has decided that from now on there will be a single award made once a year. The closing date for awards will be on 28th February each year and will be for conferences held from 1st March to the following 28th February (i.e. there will not be retrospective awards). Applicants do not have to be presenting at an AVA conference.

The next closing date for applications is:

28th February 1999

for conferences held between 1st March 1999 and 28th February 2000.

To apply for an award you need to complete an application form which is available from:

The AVA Secretariat,
College of Optometrists,
42 Craven Street,
London,
WC2N 5NG.

An award of £400 was given to Simon Watt from the University of Surrey to help contribute toward costs of attending ARVO in the USA to present a poster entitled "The role of retinal size and retinal disparity in the control of reaching and grasping".

A report of Simon Watt's visit to ARVO follows:

Report of ARVO meeting, Ft Lauderdale, USA, May 1998

I was awarded a Geoffrey J Burton Memorial Fund travel bursary to attend the Association for Research in Vision and Ophthalmology Annual Meeting, held in Fort Lauderdale, USA in May 1998. The paper sessions on Stereopsis and Depth Perception were of interest to me. However, a number of the poster sessions proved to be particularly useful and interesting, including the sessions on Space, Position and Depth, Normal and Abnormal Binocular Function, Objects and Shape, and Intersensory Interaction.

My poster, "The role of retinal size and retinal disparity in the control of reaching and grasping", provoked considerable interest. It extended a study of the effects of object size and distance on prehension by Servos *et al* (1992, *Vision Research*, 32, 1513-21), by sizing the objects such that retinal disparity and retinal size were controlled for. Of particular interest to delegates (and myself!) was the finding that small objects were reached for quickest under monocular viewing, whereas larger objects were reached for more quickly under binocular viewing. Despite an intense debate, this result remains unexplained.

The number of UK researchers in this field is relatively small. Therefore it was extremely valuable to be able to discuss my work with a number of international colleagues. In particular, Jonathan Marotta and others from the University of Western Ontario, David Knill, and Eli Brenner provided both insightful and positive feedback.

Simon Watt, University of Surrey

Abstract:

The role of retinal size and retinal disparity in the control of reaching and grasping.

S.J. Watt, M.F. Bradshaw, P.B. Hibbard and I.R.L. Davies
Department of Psychology, University of Surrey, UK.

Purpose. To examine the effect of object distance on human reaching behaviour under monocular and binocular viewing, independently of

retinal size and depth. Servos *et al* (1992, *Vision Research*, 32, 1513-21) found that reaching under binocular viewing was more efficient, showing shorter onset times, higher peak velocities, and shorter movement times. Under both binocular and monocular viewing, kinematic indices of the reach (e.g. peak velocity, peak acceleration) were scaled by object distance. However, they did not compensate for retinal size or retinal disparity when viewing distance was manipulated. In addition, the effects of retinal disparity and monocular/binocular viewing could not be separated. **Methods.** To augment their findings, normal and binocular stereoblind participants reached for and lifted solid rectangular objects placed at 30, 43 and 55 cm along the midline in normal lighting conditions under monocular and binocular viewing. Subjects' heads were held stationary. A range of object sizes were used so that the projected sizes could be equated at the three distances. Object height was randomised. A *MacReflex Motion Analysis* system was used to analyse movement parameters. **Results.** Under both monocular and binocular conditions, peak velocity was a linear function of an object's distance, and was not affected by the magnitude of retinal size or disparity. Peak velocity increased more rapidly with increasing object distance under binocular viewing than under monocular viewing. Movement onset times were longer under monocular than under binocular viewing. Reach profiles of stereoblind participants did not differ significantly from those of normal participants. **Conclusions.** The temporal parameters of reaching movements were not affected by object size. Object distance is the vital parameter. This supports the findings of Servos *et al*, and holds even when retinal size and retinal disparity are equated for objects presented at different distances.

Supported by the BBSRC and the Royal Society

Applied Vision Association

Natural Images

16 September 1998

Venue: Cabot Room, "The Hawthorns", University of Bristol

Draft programme

- 0930 - 1000 Registration
- 1000 - 1100 Invited Lecture,
The visual system's code is matched to the properties
of natural images
David J. Tolhurst, University of Cambridge
- 1100 - 1130 Coffee
- 1130 - 1200 Local contrast in natural scenes
Nuala Brady, University of Manchester,
David Field, Cornell University
- 1200 - 1230 The coding of natural scenes in primary visual cortex
Daragh Smyth, Oxford University
- 1230 - 1330 Lunch
- 1330 - 1400 The second-order content of natural images,
Andrew J. Schofield, University of Birmingham
- 1400 - 1430 Spatiochromatic statistics of low-dimensional
representations of natural coloured images:
preliminary results
Mitchell Thomson, University of Aston,
Steve Westland, University of Keele
- 1430 - 1500 Detection of phase-based distortions in faces and sinusoidal
gratings
Dean Melmonth, University of Wales
- 1500 - 1530 Tea

1530 - 1600 TBA

1600 - 1630 TBA

1630 Close

To attend: please send a cheque for £20 (AVA Member) / £25 (non Member) made payable to the “Applied Vision Association Meetings Account” to:

Dr Ian R. Moorhead (Q7)
Centre for Human Sciences
DERA
Fort Halstead
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fax 01 959 516 029

Applied Vision Association Future meetings

The AVA is planning to hold a number of scientific meetings in the near future. Details of these meetings are given below. For the latest news please look at the meetings page of the AVA web site at: <http://www.dmu.ac.uk/ava/>

AVA Postgraduate meeting - College of Optometrists, London 11 November 1998

Call for abstracts

The Applied Vision Association will be holding a one-day meeting at the College of Optometrists in London. The meeting is open to postgraduates who would like the opportunity to present a paper on their research in a friendly, non-hostile atmosphere. This meeting is an opportunity for postgraduates not experienced in scientific presentation to practice in the presence of other researchers and to receive comments from those listening.

Invited speaker: Dr John Harris, University of Reading

GJ Burton Postgraduate prize: There will be a cash prize and a book given for the best presentation.

The AVA Committee would like to encourage young scientists to attend so the costs are as follows:

Free (including lunch) for speakers

£5.00 (including lunch) for everyone else

Please send abstracts (up to 200 words) to:
Nick deBrunner (AVA secretariat),
College of Optometrists,
College of Optometrists,
42 Craven Street,
London,
WC2N 5NG.

email: NdeBrunner@COptom.demon.co.uk

**AVA Christmas meeting - Aston University
16 December 1998
Nonlinear Vision**

Call for abstracts

The Applied Vision Association will be holding a one-day meeting at Aston University on the subject of Nonlinear Vision. The Aston meeting at Christmas is becoming an annual event and has been very successful. This year one of the invited speakers already confirmed is Andrew Derrington from Nottingham University.

Abstracts will be published in "Perception".

Please send abstracts (up to 200 words) to:
Dr Tim Meese
email: T.S.Meese@aston.ac.uk

**AVA 99 - Annual meeting- College of
Optometrists, London
17 March 1999**

Meeting theme: Visual Search

contact: Nick deBrunner (AVA secretariat)
NdeBrunner@COptom.demon.co.uk

AVA books for sale

The AVA still has a number of new books for sale from conferences that it has organised over the years.

Payment can be by cheque or postal order in UK pounds (sorry, no credit cards) to “Applied Vision Association”. Send your payment with the order to:

AVA Secretariat,
Applied Vision Association,
College of Optometrists,
42 Craven Street,
London WC2N 5NG.

Books available:

The cost for each book is £15 (including postage in the UK) for AVA members or £20 for non-AVA members. If you are outside the UK then add £5 per book to each of the prices above.

Gale, A.S., Astley, S.M., Dance, D.R. and Cairns, A.Y. (1994) **Digital Mammography**. Elsevier (424 pages).

Gale, A.S., Brown, I.D., Haslegrave, C.M., Krusysse, H.W. and Taylor, S.P. (1993) **Vision in Vehicles IV**. North Holland (355 pages).

Brogan, D., Gale, A. and Carr, K. (1993) **Visual Search 2**. Taylor and Francis (477 pages).

The cost of the Dalton conference book is £43 (including postage in the UK) for AVA members or £48 for non-AVA members. If you are outside the UK then add £5 per book.

Dickinson, C., Murray, I. and Carden, D. (1996) **John Dalton’s Colour Vision Legacy**. Taylor and Francis (784 pages).



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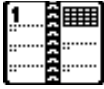
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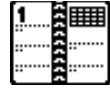
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References supplied (as usual!) by:

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Meetings Calendar



1998

- September 8-9 British Congress of Optometry and Vision Science
UMIST Contact: mjccmd@fs1.op.umist.ac.uk
http://www.umist.ac.uk/UMIST_OVS/welcome.html
- September 16 AVA Natural Images meeting, University of Bristol
Contact: Ian Moorhead i_moorhead@dera.gov.uk
- November 11 AVA Postgraduate meeting, College of Optometrists
Nick deBrunner ndebrunner@coptom.demon.co.uk
- October 23-26 Silmo 1998
<http://www.silmo.fr>
- December 16 AVA Christmas meeting, Aston University
Contact: Tim Meese T.S.Meese@aston.ac.uk

1999

- March 17 AVA99 annual meeting, College of Optometrists
Nick deBrunner ndebrunner@coptom.demon.co.uk
- May 9-14 ARVO, Ft Lauderdale, USA
<http://www.faseb.org/arvo/>
- August 10-14 23rd Pupil Colloquium, Nottingham
<http://www.mailbase.ac.uk/lists/pupil/files/>