

# Applications 1

Tuesday, September 05, 2006  
9:47 AM

Book contents --- exam prep (?)

Chp 11.4 - 11.9 (Psych)

- Who are the key players?

- Keith Rayner - Univ. of Michigan - reading studies

- George McCloskey - UIUC  
(Beckman Inst.)

- John Henderson

→ "moving window" paradigm

scene perception, inatt. blindness

~~The stick broke the~~ jumped over the (s) dog

→ schema hypothesis

} expectation  
- what you expect to see  
- VR to manipulate scene

Hayhoe + Ballard - Univ. of Rochester

VH studies, natural tasks

Michael  
Land

gaze before  
hand

↑  
making sandwichez  
making tea

↳ eye/hand coordination

←  
Jeff Pelz

RIT

"look-ahead  
eye movements"

head-worn ETS,

head-washing task. ETHA 2002

David Wooding - UK (Univ. of Derby) (deceased)  
- art perception; London gallery, 5000 subjects

## Eye movements in Reading

- Three eye movement characteristics:
  1. reading silently vs. reading aloud

implications for  
usability studies

mean fixation  
duration lengthen (?)

look this up

↳ particularly during Talk-Around  
(Think Aloud)

— can ext. paragraphs  
for usability,

2. fixations:

200-250 ms — but for what text?

source size:

7-9 letter spaces?

↳ type of font?

book? newspaper? web page?  
language?

ALWAYS REMEMBER:

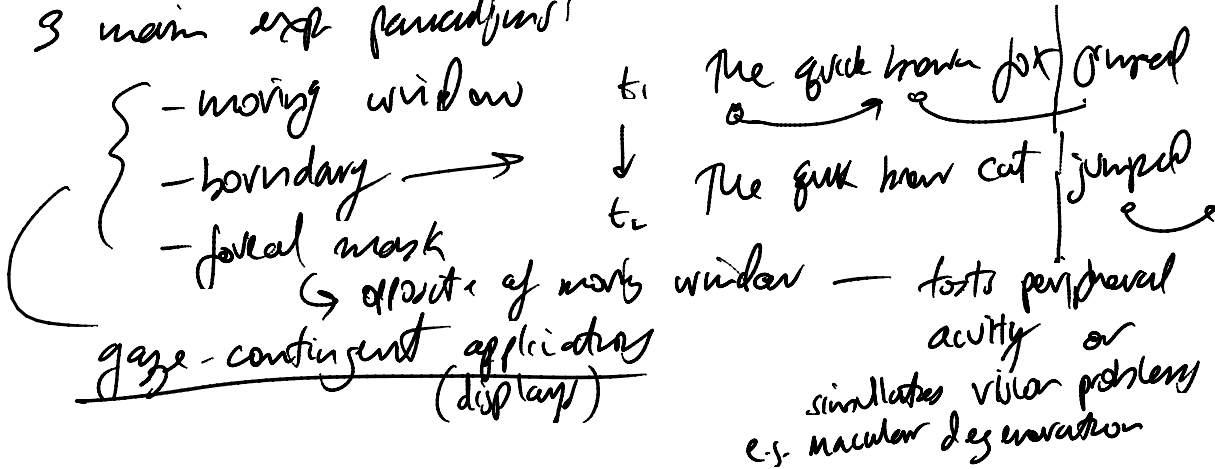
eye movement  
patterns are  
task-dependent

Reading:

3. eye movements influenced by typographical variables

- font family
- font size, etc.

3 main exp paradigms:



Marby window: helped determine "perceptual extent" →  
14 characters ± 7 to left + gls

but it may be skewed  
to the right for L-to-R  
readers

perceptual span

+

# Eye tracking vs. tachistoscopic studies

very brief exposures of stimuli  
(e.g. image)

↳  
a few milliseconds

why? simulate fixation  
≡ exclude possibility of a saccade

if you don't  
measure eye  
movements,  
you can't  
confirm this  
assumption

assumed no eye movement was made  
during exposure

⇒ "post man's eye tracker" ?

other interesting findings:  
- center of gravity effect.

fixation land  
between plans of  
targets

theories of saccadic programming

e.g.,  
eye movements  
are ballistic

how brain computes  
"trajectory" of eye ball

↳ physically carried out by extraocular muscles

\* stereotyped



ballistic trajectory  
repe at abbe  
re (109/annu) 16

