Faculty of Human Sciences public lecture series

Are we victims of our unconscious minds?

Edward de Haan
“The ego is not master in his own house”
Freud’s ideas resulted from the scientific climate of his days:

**Biology**

**Darwin**
(survival of the fittest)

“Competition as a natural mechanism; *eros* and *thanatos*”
Freud’s ideas resulted from the scientific climate of his days:

**Physics**

**Von Helmholtz**

(the law of preservation of energy)

“Human mind as a closed system where energy flows from the unconscious to the conscious part of the mind”
Freud’s ideas resulted from the scientific climate of his days:

Neuropsychology

Hughlings-Jackson (behavioural neurology)

"A large portion of our mental processes remain unconscious"
"They had not been long in Ittaca when the pest struck .... For the disorder first settled in the head, ran its course from thence through the whole of the body, and, even where it did not prove mortal, it still left its mark on the extremities... Others again were seized with an entire loss of memory on their first recovery, and did not know their friends. (Thucydides. The History of the Peloponnesische War Book 2, 49, 153.)
The Neuropsychology of unconscious processes; the visual system.
Blindsight

(e.g. Cowey, 2010)
Colour agnosia

Intact perception of colour

- Basic perception of shape, brightness and colour.

- Ishihara colour test.

- Farnsworth-Munsell 100 hue test
Impaired object-colour matching

Poor colour categorisation
Farnsworth-Munsell chips
Semantic priming
Covert processing of colour in colour agnosia

Timed lexical decision

500 500 2000 ms
Reaction times of MAH and age-matched controls on the colour priming experiment.
Higher-order visual recognition impairment: Object agnosia.
Apperceptive and associative agnosia
Prosopagnosia

Forced-choice recognition test: $\frac{65}{128} = 50.7\%$
Semantic priming experiment

Kevin Rudd

Timed response “Familiar” or “Unfamiliar”
Response time

- Related
- Unrelated
So, from neuropsychology we learn that cognitive processing may occur without conscious awareness and at different levels of processing.

What about normal, healthy people?  
- Do they show unconscious processing?  
- Does this influence their decisions?
Stroop (interference) effect

BLUE    GREEN    YELLOW
PINK    RED    ORANGE
GREY    BLACK    PURPLE
TAN    WHITE    BROWN
Mean attentional bias scores and SEM in milliseconds for the masked and unmasked tasks.
Change Blindness

(e.g. Rensink 2008)
Change Blindness: flicker
Attentional Blindness
Choice blindness

Johansson et al, 2005
’homo oeconomicus’ based on the idea that decision makers are rational and selfish
Neuro-economics
Are we then slaves?
What we have seen so far are demonstrations of the fact that:
1. part of our mental processes are not consciously accessible,
2. these processes include higher-order cognitive processes,
3. these processes influence or modulate our decisions,

but to what extent do they influence our behaviour and how well do they do?
Proposer

10 euro will be divided

... gets 7 euro
You get 3 euro

Feedback

... received 7 euro
You received 3 euro

... received nothing
You received nothing

Graph Window

DYNAMIC SKIN RESPONSE

STIMULATION PHASE

RELAXATION PHASE
10 euro will be divided

... gets 7 euro
You get 3 euro

... received 7 euro
You received 3 euro

... received nothing
You received nothing
Decision making based on accumulating conscious and unconscious information

De Lange et al, 2011
Conclusion

Although unconscious processing is real and takes place at all levels, it’s influence has recently been overstated:
1. conscious processing is often better,
2. conscious processing often prevails,
3. conscious processing often defines the space in which unconscious influence takes place.