Are you looking at my pint?

Cognitive cues enhance thirst. **ANDREW J. EDMONDS**

MUCH research aimed at furthering our understanding of thirst has largely focused on the associated physiological changes. However, as the desire to ensure that we do not die of thirst is something of a primary motive, one might assume that 'the onset of drinking behaviour is mediated by cognitive processes that can elicit these actions'. Henk Aarts and researchers at Leiden and Amsterdam Universities and Eindhoven University of Technology investigated whether feelings of thirst increased the cognitive accessibilty of drinking-related cues.

Fifty-eight undergraduates were randomly assigned either to a 'thirsty' condition or to one of two 'non-thirsty' conditions. Participants first performed a lexical decision task, in which they were required to decide whether each of 10 words was a real (existing) word or not as quickly as possible. The average response time across the five real words was calculated. To induce thirstiness, participants in the thirsty condition were then given three salty sweets containing liquorice, each of which had a letter marked on one side. They were given one minute to decide, by detecting with their tongue, which letter was marked on each sweet. In the remaining (non-thirsty) conditions participants either performed the same task with non-salty sweets or carefully drew each of the three figures depicted on the sweets. Finally, participants performed a second lexical decision task with 48 words (24 real, 24 non-real). Of the real words, eight were associated with drinking (e.g. glass, cup, juice), with the remainder not drinking-related (e.g. chair, lamp).

The results of the lexical decision task showed that thirsty participants responded significantly faster to drinking-related items than to non-drinking related items, and they were faster to do so than were 'non-thirsty' participants.

In the second experiment a further 84 participants were either made to feel thirsty or were asked to draw the three figures depicted on the sweets. They then waited in a different office for four minutes, in which eight drinking-related items had been placed. Upon their return, a surprise test required participants to recall as many of the items in the office as possible.

Consistent with the findings of the first experiment, participants who had been made to feel thirsty recalled significantly more drinking-related items than did those in the control condition, suggesting that feelings of thirst enhanced recall. Although increased cognitive accessibility to drinking-related items may merely reflect a desire to remove an unpleasant taste in the mouth, these findings nevertheless support the view that a current motivation (in this case the desire to quench one's thirst) heightens the accessibility of (drinking-related) cues which are likely to fulfil that motivation.

KATE GREY

A 'transparent-ambiguous' stimulus?

Perhaps an even more striking and convincing demonstration of the effects of feeling thirsty is provided by Mark Changizi and Warren Hall from Duke University in the USA. These authors noted that transparency is a property that is almost invariably associated with water and, as such, they considered whether or not thirsty participants would favour perceptions of a transparent surface in 'transparent-ambiguous' stimuli.

In their study 74 participants either were made to feel moderately thirsty by eating a bag of salty crisps or drank water until they were not thirsty. Participants were shown 72 circular (36 ambiguously transparent, 36 definitely or definitely not transparent) and 64 rectangular (24 ambiguously transparent, 40 definitely or definitely not transparent) stimuli, presented as stereograms on a computer with the aid of a stereoscope. For each image they were required to decide whether they perceived a transparent surface. At the end of the experiment, participants rated their degree of thirst.

Participants who were made to feel thirsty prior to the experiment were significantly more thirsty at the end of the experiment than were those who quenched their thirst prior to participation. More importantly, thirsty participants were significantly more inclined to perceive a transparent surface in an ambiguous stimulus than were non-thirsty controls.

These articles suggest that the cognitive accessibility of drinking-related cues (as measured by heightened arousal, awareness and recall) and even perceptions of ambiguous stimuli can be biased by current states (thirst) and motivations (desire to quench thirst), enabling us to orient our behaviour in the real world accordingly. Thankfully, the motivation to quench a thirst biases our cognitive system to (Aarts *et al*. suggest) 'help us…detect a can of Coke or a cool glass of beer that would go unnoticed under other circumstances'.

Aarts, H., Dijksterhuis, A. & De Vries, P. (2001). On the psychology of drinking: Being thirsty and perceptually ready. *British Journal of Psychology, 92*, 631–642.

Changizi, M.A. & Hall, W.G. (2001). Thirst modulates a perception. *Perception, 30*, 1489–1497.

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