

The Role of Counter-conditioning in the
Extinction of Conditioned Taste
Aversions

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the degree of Master of Science by Research.

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I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person nor material which to a substantial extent has been accepted for the award of any other degree or diploma of the university or other institute of higher learning, except where due acknowledgment is made in the text.

I also declare that the intellectual content of this thesis is the product of my own work, even though I may have received assistance from others on style, presentation and language expression.

Ethical approval for the use of all the animals in this thesis was obtained according to University guidelines.

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Abstract

The experiments reported in this thesis attempted to examine the influence of thirst on the extinction of taste aversions in rats. Differences in the amount of stimulus exposure and deprivation state between groups were controlled for. The first experiment presented two novel flavours twelve times to rats when either thirsty or sated. A preference for the flavour presented when thirsty was established. The next three experiments examined whether this preference would accelerate the extinction of a taste aversion, by first pairing a novel flavour with lithium and then presenting the conditioned flavour when rats were either sated or thirsty. No evidence of accelerated extinction was found. The final two experiments examined whether the associatively-activated representation of sucrose could function to extinguish a taste-aversion to that sucrose without presenting sucrose itself. No evidence of representation-mediated extinction was found despite evidence that the context was associated with sucrose. The results indicate that the extinction of conditioned taste aversions is not influenced by counter-conditioning due to thirst relief, and extinction of such aversions appears to be due to similar processes as other forms of conditioning.