



<http://researchspace.auckland.ac.nz>

## ***ResearchSpace@Auckland***

### **Copyright Statement**

The digital copy of this thesis is protected by the Copyright Act 1994 (New Zealand).

This thesis may be consulted by you, provided you comply with the provisions of the Act and the following conditions of use:

- Any use you make of these documents or images must be for research or private study purposes only, and you may not make them available to any other person.
- Authors control the copyright of their thesis. You will recognise the author's right to be identified as the author of this thesis, and due acknowledgement will be made to the author where appropriate.
- You will obtain the author's permission before publishing any material from their thesis.

To request permissions please use the Feedback form on our webpage.

<http://researchspace.auckland.ac.nz/feedback>

### **General copyright and disclaimer**

In addition to the above conditions, authors give their consent for the digital copy of their work to be used subject to the conditions specified on the Library Thesis Consent Form.

PEAK SHIFT FOLLOWING SIMULTANEOUS  
DISCRIMINATION TRAINING

A thesis submitted to the University of  
Auckland in partial fulfilment of the  
requirements for the degree of Doctor  
of Philosophy

by

Alan Stuart William Winton  
Department of Psychology

(March 1975)

## CONTENTS

	<u>Page</u>
<u>ABSTRACT</u>	
<u>INTRODUCTION</u>	1
I. TESTS OF GENERALISATION	1
II. DISCRIMINATION TRAINING	2
III. EFFECTS OF TRAINING PROCEDURES ON GENERALISATION GRADIENTS	5
IV. EXPLANATIONS	16
V. MEASUREMENT CONSIDERATIONS	27
<u>EXPERIMENTAL PROCEDURE</u>	32
I. APPARATUS	32
II. INDEPENDENT AND DEPENDENT VARIABLES	33
III. METHOD	34
<u>RESULTS AND DISCUSSION</u>	43
I. MAJOR FINDINGS	44
II. EFFECTS OF PROCEDURAL VARIATIONS	50
III. GENERAL IMPLICATIONS	60
IV. MEASUREMENT CONSIDERATIONS	66
<u>REFERENCES</u>	68
<u>TABLE</u>	74
<u>FIGURES</u>	75

### ABSTRACT

Organisms trained to respond at a high rate to one stimulus, S1, and at a low rate to another stimulus, S2, lying in the same physical dimension as S1, may, when presented successively with a number of stimuli lying in the dimension, respond at the highest rate to a stimulus away from S1 in a direction opposite S2. This "peak shift" effect has been found following training in which S1 and S2 were presented successively, but not when they were presented simultaneously. In the present study peak shift was obtained when S1 and S2 were presented simultaneously during training. In order to isolate the conditions necessary to produce peak shift after simultaneous training, different groups of pigeons were given variations in procedure, but peak shift was obtained with all groups. The variations included using stimuli from various physical dimensions, using different training procedures, and using various methods of presenting stimuli during the tests for peak shift. The results were generally more consistent with discrimination theories that postulate the interaction of generalisation gradients around S1 and S2, rather than with theories that postulate control by some relationship between S1 and S2, and in particular, they were most consistent with explanations of peak shift that propose that the responding occurring in the presence of S1 is inhibited in the presence of S2.