***Von Restorff Effect***

# Introduction

# Humans respond to novelty. Many of us seek out novelty in our daily activities because distinctiveness is the opposite of that which produces boredom. The German psychologist Hedwig von Restorff, operating in the Gestalt tradition of her mentors, demonstrated experimentally a powerful effect in the 1930s. She showed that when participants were presented with a list of categorically similar items (e.g., furniture) with one distinct item among the list (e.g., squirrel) recall for the isolated and distinct item was improved relative to recall for the similar items. In this activity you will explore how your own memory is influenced by distinctiveness in what has become known as the von Restorff or isolation effect.

# Description of Activity

Trials in this activity begin with the usual fixation ‘+’. Focus on it and the press the space bar when you are ready to begin the trial. You will be shown a series of items (e.g., lowercase letters) one at a time. Do your best to remember all the items. After the series has been presented, you will be asked to recall the items in any order you wish by clicking on corresponding buttons on the screen.

# Distinctiveness

# After you completed the trials, did you notice how many items were in each series? How does this number related to Miller’s magic number that you read about in the memory span activity? Did you notice what was distinct about one item in each trial? What made it distinct? Was it something related to categories or was it perceptual? It turns out that the von Restorff effect can come from changing something about the meaning or physical nature of one of the items in the list. Something as simple as color or even underlining can make one item distinct from the other items in the list.

# Explanations for the von Restorff Effect

It is clear from other studies and also from results of this activity that simple perceptual manipulations can lead to the isolation effect. What is debatable is why the distinctiveness of the item leads to better memory. Are the isolated items rehearsed for a longer time in working memory relative to the similar items? Do participants consider the distinct items as a separate category (e.g., red letters categorized separately from black letters). Do we pay more attention to the distinct items because they appear in a different context (i.e., red vs. black font)? These all remain testable hypotheses to explain the von Restorff effect. What is also known is that distinct items evoke a larger electrical response in the participant’s brain (i.e., a larger evoked potential response - ERP), and the magnitude of this larger ERP response correlates with future faster recall and item recognition. It is also reported that the effect decreases with age, which is not surprising as there are many examples of age-related decreases in memory.