

Aggleton, J. P. and Waskett, L. (1999). The ability of odours to serve as state-dependent cues for real-world memories: Can Viking smells aid the recall of Viking experiences? British Journal of Psychology (1999), **90**, 1-7.

1. **Topic: Odor research: Viking museum smells.**

2. ABSTRACT: Essential findings LANGUAGE CONNECTIONS

Testing recall of information gained on a visit to Viking museum with distinctive odors. One group (of 3) first tested with same odors experienced on visit, other group different odor; 3rd no odors. After a brief delay, original odor group given new odors, 2nd. With novel odors, given Viking smells, 3rd. group had no odors.

3. Best results:

Novel then original odor group had highest retrieval. Therefore, odor was effective cue. Effective cue for real-world episode (DG).

4. Full report notes:

A. (p. 1) "...widely accepted that odor cues can provide strong contextual cues that aid the recall of information originally presented in the presence of that odour." Also, ... an odour cue has "remarkable duration." "unusually detailed retrieval occurs via this form of cue. [DG: Recall of visit to aunt's house on experiencing odor of tar at beach.]

B. Evidence from 2 other sources: Laird (1935), and Rubin, Groth and Goldsmith (1984)

1. Difficulty arises in verifying accuracy (validity) of recollection.

2. Not established if odor and memory are related or how often the odor has been experienced in other settings

3. **Purpose of Study:** To insure the relationship between odor to an episode of real life: Visit to the museum of Viking history. Jorvik Museum.

C. Other studies showed superior recall in odor consistent context (Cann & Rose 1989; Herz & Engen 1996; Schab 1990; Smith, Standing & DeMan 1992).

HENCE, Present study is an experiment with odour in a real-world episode.

QUESTION: To what degree to specific Jorvik smells act to improve "recall of information about exhibits in the Jorvik Museum Center?"

TREATMENT: Smells are piped into the museum, "several different, highly distinct, smells..."

METHOD: All groups had visited the museum 1-3 times with a time lapse of 6-7 years since the last visit. They smelled the odors while taking the test of recall about museum information (based on their previous experience in the museum.) A control group received no piped smells. For the Jorvik odor group (novel-original) there was significant improvement from test one to test 2 over the other groups and smell was not significant for the other groups.

DISCUSSION: "Salient elements of the environment in which learning takes place are encoded and linked with the to-be-remembered information." Cites this as the Encoding Specificity principle (attributed to Tulving and Thomsen, 1973): Assumes that salient elements ...etc. [DW: Recalls situation of trying to get adult to remember elements of math by remembering salient elements of the class structure, teachers, surroundings, etc.; the context in which the learning was to be taking place, but was not recalled or learned.]

LANGUAGE CONNECTIONS:

1. The textuality of an episode may very well include a distinctive odor which, according to the encoding specificity principle of Tulving, will be linked with the other elements of the episode as well as the information contained in the experiential context. Should there be learning to take place, such odors may be cues for recall or retrieval of the textuality of the episode, including the elements of learning, as well as the conditions under which the learning took place. Trying to stimulate recall or retrieval of the information absent the contextual setting, potentially including the smells, may not be an effective approach to this form of testing, a typical approach used in common throughout American education.
2. One can reinforce the contextual elements of a learning episode, in particular, one that holds meaning for the learner so as to lay the potential cues for recall or retrieval at a later date in similar contexts of the information or for the use of the information In a similar context. Context, context, context.

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