



B 18

Spence, Donald P. and Holland, Bert. "The restricting effects of awareness: a paradox and an explanation." J. Abn. Soc. Psych., 1962, 64:3, 163-174.

This article attempts to clarify the question of "partial awareness" in studies of subliminal activity. Critics such as Erikson, have argued that "some aspects of the stimulus were consciously perceived but un verbalized; since we depend on a verbal response (ie., "I didn't see anything") to measure awareness, we are misled into thinking that no conscious cues are being received. Because the insensitive verbal indicator is used to determine threshold, it leads to the false conclusion that a stimulus is subliminal." (163)

Two opposing arguments regarding 'partial awareness' are drawn: on the one hand is the "intensity argument" which would account for the effects of subliminal stimulus in terms of partial awareness. Increments in stimulus intensity will lead to increasing increments of response. This argument makes two assumptions. 1. "A response based on partial cues is on the same continuum with a response to a fully developed stimulus, but the former is a paler and less precise copy of the latter" (163). 2. "Awareness of the stimulus can be used to gauge the amount of information being registered, so that when awareness is minimal... only partial cues are being received and only a primitive and inarticulate response can result." (163)

The second argument is based upon those studies which find that the effect of an impoverished stimulus varies inversely with its intensity. "The implication is that as information (exposure level) is decreased the effect increases, in contradiction to the first assumption of the intensity argument; and in contradiction to the second assumption, we find that awareness cannot be used to predict the amount of effect." (164) This argument holds that a new class of responses will be produced as one proceeds below threshold. Furthermore, reduction of awareness should not lead to a more primitive mode of response, but to a greater spread of activity to many logically connected responses.

The method chosen to test the validity of one of these arguments over the other is the recall of meaning associates vs. structurally similar associates to the subliminal stimulus CHEESE. 59 male and 6 female Ss were divided into 3 groups: 29 Ss composed the Subliminal group; 19 the Blank group; (which did not receive the stimulus cheese,) and 17 the Supraliminal group. 10 associates to the word CHEESE were selected from the Russell and Jenkins Minnesota Norms. These ranged in popularity from Mouse (common) to Brick (rare). 10 control words were chosen, matched to the associates in frequency of usage, number of letters, and part of speech.

The procedure was to flash the stimulus CHEESE subliminally, or supraliminally (or not at all in Blank condition) followed by the reading of the test and control words (one reading only) in scrambled order, plus 3 initial and 3 final "padding" words to reduce primacy and recency effects of recall. Ss were instructed to recall as many words as they could in any order; no time limit was imposed, and Ss were encouraged to guess.

If meaning was the determining factor, in recall, then more CHEESE associates should be recalled than control words. This would tend to support the second hypothesis. If partial cues were the determining factor, as in argument 1, recall of structurally similar words would be greater than meaning-associated words. Thus, one would expect those control words containing letter combinations similar to the stimulus word CHEESE to be recalled more frequently than the structurally dissimilar



Spence, p.2

control words.

Results: It was found that 6 of the 29 Ss in the Subliminal group reported seeing 'something' in the field, while none of the others consciously perceived the stimulus. ~~With regard~~ Therefore, these 6 Ss were eliminated from the main data analyses. With regard to structure, (argument 1), there was a slight but non-significant trend for more structurally similar words to be recalled than dissimilar words, using the 23 Ss who had no conscious perception. However, when the other 6 who reported discrimination of the stimulus were added in, the difference reaches significance. Thus, "when partial cues are available to the Subliminal group, they facilitated recall of structurally similar words, as the intensity hypothesis would predict; but this is only true at the level of partial awareness!" (167). The intensity hypothesis is not supported at the subliminal level of exposure.

With regard to meaning, it was found that 19 of the 23 Ss in the subliminal group recalled more CHEESE associates than control words. In the Blank group, no differences were found between recall of CHEESE associates and control words. Additional correlations revealed that the subliminal stimulus has an even stronger effect on weaker associates to CHEESE than on stronger associates, other things being equal. "The average association strength of the associates recalled by subjects is not correlated with commonality (ie., popular responses). These results show that the subliminal stimulus reinforces a broad network of associates which are not concentrated around the most preferred conscious response and...tend to be distantly related to the stimulus." (169)

With regard to the effects of awareness (ie., the supraliminal condition) it was found that awareness has a restricting effect on recall.. "These findings suggest that partial cues, as they become more available, tended to organize the recall in terms of structural elements and thus reduced the recall of meaning associates (which have less structural correspondence to the test stimulus)" (170). Another finding with the supraliminal stimulus is that there were more 'intrusions' (ie., words recalled that were not on the list). These intrusions were frequently food associates to CHEESE (ie., sweet, taste, meat, etc). The author's interpretation is that awareness of the stimulus tended to reinforce a particular kind of meaning, but restricted sensitivity to other kinds of connotations.

Discussion: "The results show that the meaning of a stimulus can be registered without awareness and can significantly influence subsequent recall....The second conclusion...is that reported awareness is not a reliable indicator of the amount of information being registered." (171) The authors hypothesize three different stages of registrations (of the stimulus) corresponding to three different levels of awareness. In stage 1, below threshold, a wide band of association pathways is excited, and many conceptual associates are produced. In the second stage, as bits of partial information come into play, single letters of the stimulus (ie., structural relationships) are responsible for organization of recall. In stage 3, with a supraliminal level of stimulus perception, organization of the response is based on a particular and limited area of meaning. The reason that a subliminal stimulus, well below threshold (stage 1) has a more widespread and uniform effect is that as partial information becomes available (stage 2) the information becomes "organized around an idiosyncratic premise that may be only distantly related to the stimulus" (173). The restricting effect of awareness is thus the idiosyncratic nature of response that comes into play with partial recognition of the stimulus.