Recall of subject nominalizations¹

NICHOLAS L. ROHRMAN and DONALD J. POLZELLA,
Bucknell University, Lewisburg, Pa. 17837

Twenty Ss were presented with two lists of 14 subject nominalizations for written free recall, and later with one list for an association task. These items, although superficially similar, differ in complexity of deep structure. A significant difference in recall was found in favor of the items with the simpler deep structure. No difference was observed in number of associations to the different items. The results provide additional support for the notion that the underlying structure of a sentence adequately serves as a conceptualization of the memory representation of that sentence.

In a recent paper (Rohrman, in press), evidence was presented which supports the notion that the underlying structure of a sentence will adequately serve as the memory representation of that sentence. These data showed that subject nominalizations (e.g., growling lions) are easier to remember than object nominalizations (e.g., digging holes). These items are identical in surface structure. However, the underlying structures are different with the object nominalization being relatively more complex. Thus, the underlying structure correctly predicts recall differences which surface structure will not.

It has been suggested that the difference might be attributed to something other than syntactic structural differences. Since these nominalizations would function in different grammatical classes in a sentence as subject and adjective and verb and object, it may simply be that subjects are easier to recall than predicates and this would account for the differences. (See Clark, 1965, 1966, for support of this argument.) It is also conceivable that the recall difference may be due to a difference of relative meaningfulness. It is suggested that subject nominalizations are somehow a more natural unit and hence more meaningful. There are no scaled materials such as these available; but if one verbal unit is more meaningful than another, this should make a difference in an association task. To try and assess these possibilities, the following experiment was conducted:

PROCEDURE AND MATERIALS

Nominalizations which were all subject nominalizations with animate nouns were used. Nominalizations were of the following form: Type A—Growling lions; Type B—Preaching friars. These items are superficially similar, but differ in complexity of deep structure with the Type B items being more complex due to the presence of the PRO form object. Deep structures are shown in Fig. 1.

Twenty undergraduates enrolled in introductory psychology classes at Bucknell University were shown two lists of 14 items, half of each type, for immediate written free recall. Order of presentation of items was counterbalanced across Ss. Items were presented visually with a tachistoscope for 4 sec with an interitem interval of 2 sec. Items were closely matched for length and frequency (Thorndike-Lorge, 1944). At the conclusion of the recall task, Ss were shown half the items singly and asked to provide as many associations to each item as possible in 60 sec. Half the Ss associated to List 1 and half to List 2.

RESULTS AND DISCUSSION

Recall data—More of the Type A items with the simpler deep structure were recalled. A mean of 3.50 of these items was recalled as opposed to a mean of 2.68 for the Type B items with the more complex deep structure. A t-test showed the difference to be

Fig. 1. Deep structures of nominalizations.

highly significant ($t = 2.88$, $df = 19$, $p < .01$, t for correlated observations, Winer, 1962, p. 41).

Association data—Mean number of associations to the Type A items was 7.1 while Type B items elicited a mean of 7.3. A t-test showed the difference to be monumentally insignificant.

These data provide additional support for the structural notion originally defended by Rohrman. If previously observed recall differences are due to some kind of differential meaningfulness, this should be apparent on an association task, and it is not. It is reasonable to assume then that the nominalizations used in this study do not differ in meaningfulness. And in this situation, recall differences still obtain. Additionally, both types of items are subject nominalizations. This frees the data of the subject-object difference and seems to leave little other than the syntactic structural differences to which to attribute the observed recall differences.

REFERENCES

- CLARK, H. H. Some structural properties of simple active and passive sentences. *Journal of Verbal Learning & Verbal Behavior*, 1965, 4, 365-370.
- CLARK, H. H. The prediction of recall patterns within simple active sentences. *Journal of Verbal Learning & Verbal Behavior*, 1966, 5, 99-106.
- ROHRMAN, N. L. The role of syntactic structure in the recall of English nominalizations. *Journal of Verbal Learning & Verbal Behavior*, in press.
- THORNDIKE, E. L., & LORGE, I. *The teachers word book of 30,000 words*. New York: Teachers College, Columbia University, 1944.
- WINER, B. J. *Statistical principles in experimental design*. New York: McGraw-Hill, 1962.

NOTE

1. This study was supported in part by National Science Foundation, Grant GB 7614 to the first author.