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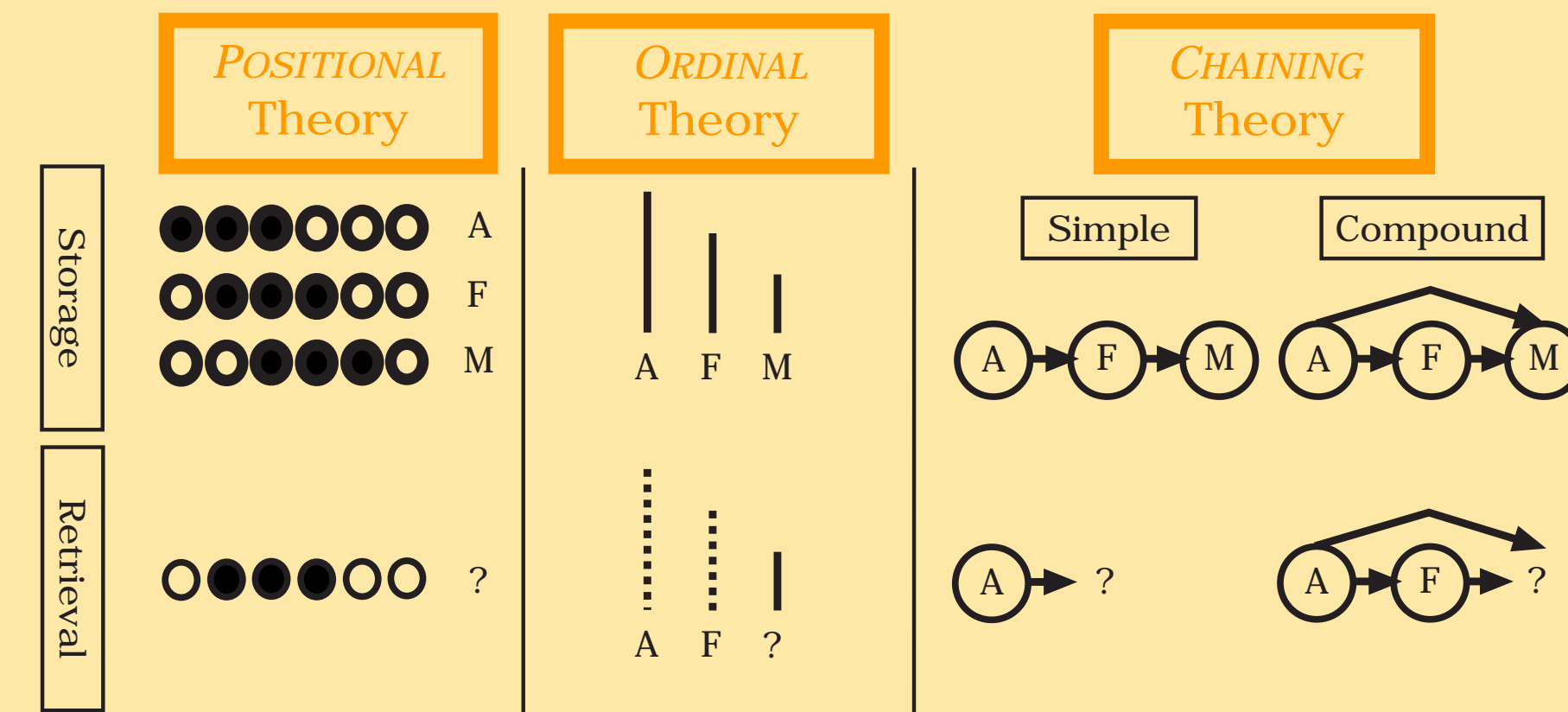
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## INTRODUCTION

The study of serial order effects is one of the main topics in human memory research. In fact, much of our cognitive performance that uses memory involves compilations of events whose order of occurrence is determinant.

There are three major ways to conceptualize serial order effects in the study of human memory (Henson, 1998; Lewandowsky & Murdoch, 1989). First, the Positional Theory states that order information is stored associating each element to its position in a sequence, being retrieved by the use of each position to reach its associated element. Second, the Ordinal Theory states that the elements of a sequence can be represented in a unique dimension. Order is defined by each element's relative strength in that dimension. Finally, the Chaining Theory states that order is stored by the formation or strengthening of associations between successive elements in a list. Order is retrieved examining through the elements of a sequence. Simple versions of these models only assume associations between pairs of elements in sequential positions in the list. Compound models, however, represent remote associations between items in non-successive positions in a list.

### THEORIES OF MEMORY FOR SERIAL ORDER

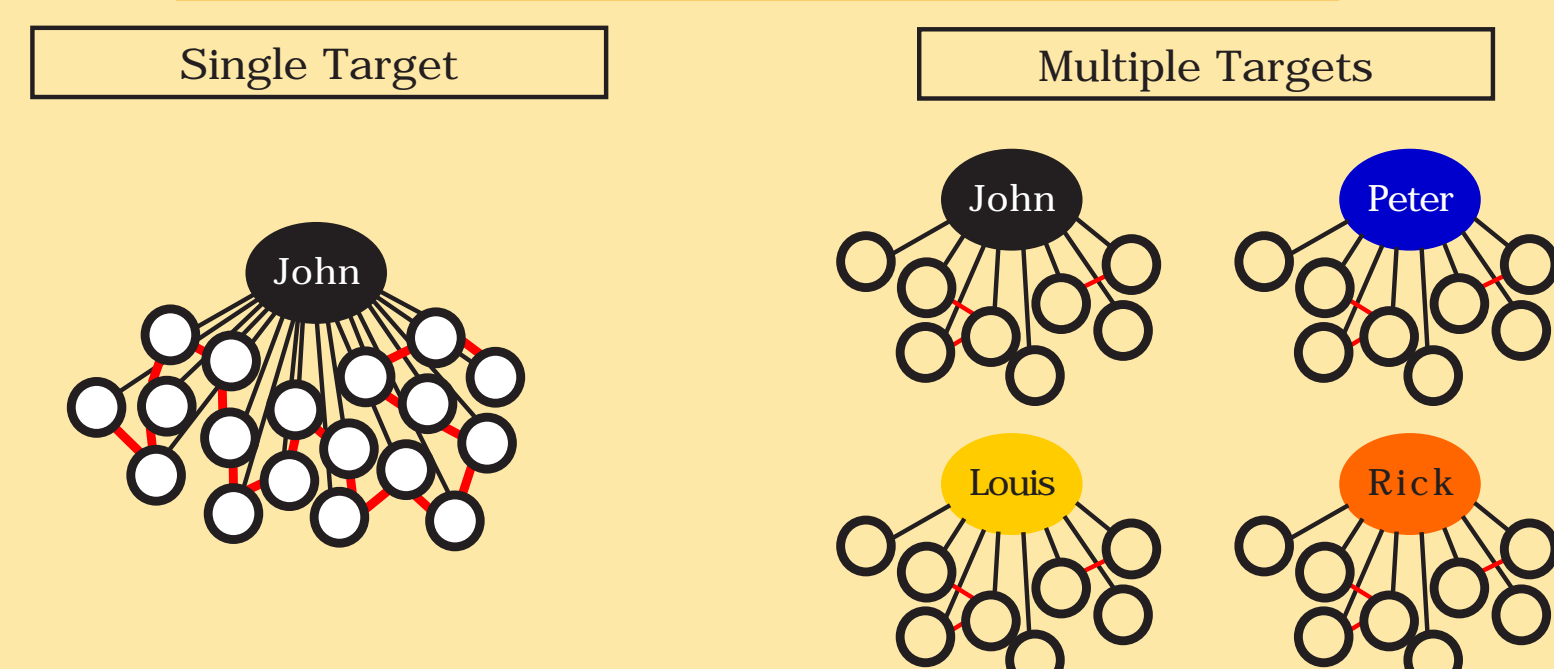


In social cognition, specifically in the impression formation literature, the systematic study of memory for serial order remains absent, though many order output effects are very well known (e.g. primacy effect, Asch, 1946).

In the person memory literature there is a strong and robust presence of the associative network models in comparison to other types of cognitive representations (Smith, 1998, 2004). These models share the same representational and retrieval assumptions with the chaining theory, that is, information is represented by the formation of associative links between items, being retrieved using these associations to reach the next item to be retrieved. Therefore, it seems that chaining and associative network models are compatible.

### PERSON MEMORY

#### ASSOCIATIVE NETWORK Models



## Hypotheses

According to the associative person memory models the organizational process underlying the formation of personality impressions is very dynamic. During encoding, each element of information is integrated with items previously known in the emergent impression of a specific target (Hamilton, Katz & Leirer, 1980). The resultant cognitive representation – a network of associative links between the encoded behaviors (Sherman & Hamilton, 1994) –, should facilitate the recall of item/source information, but make the recall of order information easier or harder depending on whether the information describes a single target and a single personality trait (Experiment 2) or multiple targets and multiple personality traits (Experiment 1), respectively. Therefore, a direct comparison between an impression formation (IF) and a memorization (M) goal condition should highlight the amount of associative elaboration that characterizes these two tasks.

We generally followed Hamilton, Katz & Leirer (1980), but we presented participants with information about multiple (Experiment 1) and single targets (Experiment 2). Furthermore, we included measures for both memory for order and memory for item or source.

## EXPERIMENTS 1 AND 2

### Experiment 1: Design, Materials and Procedure

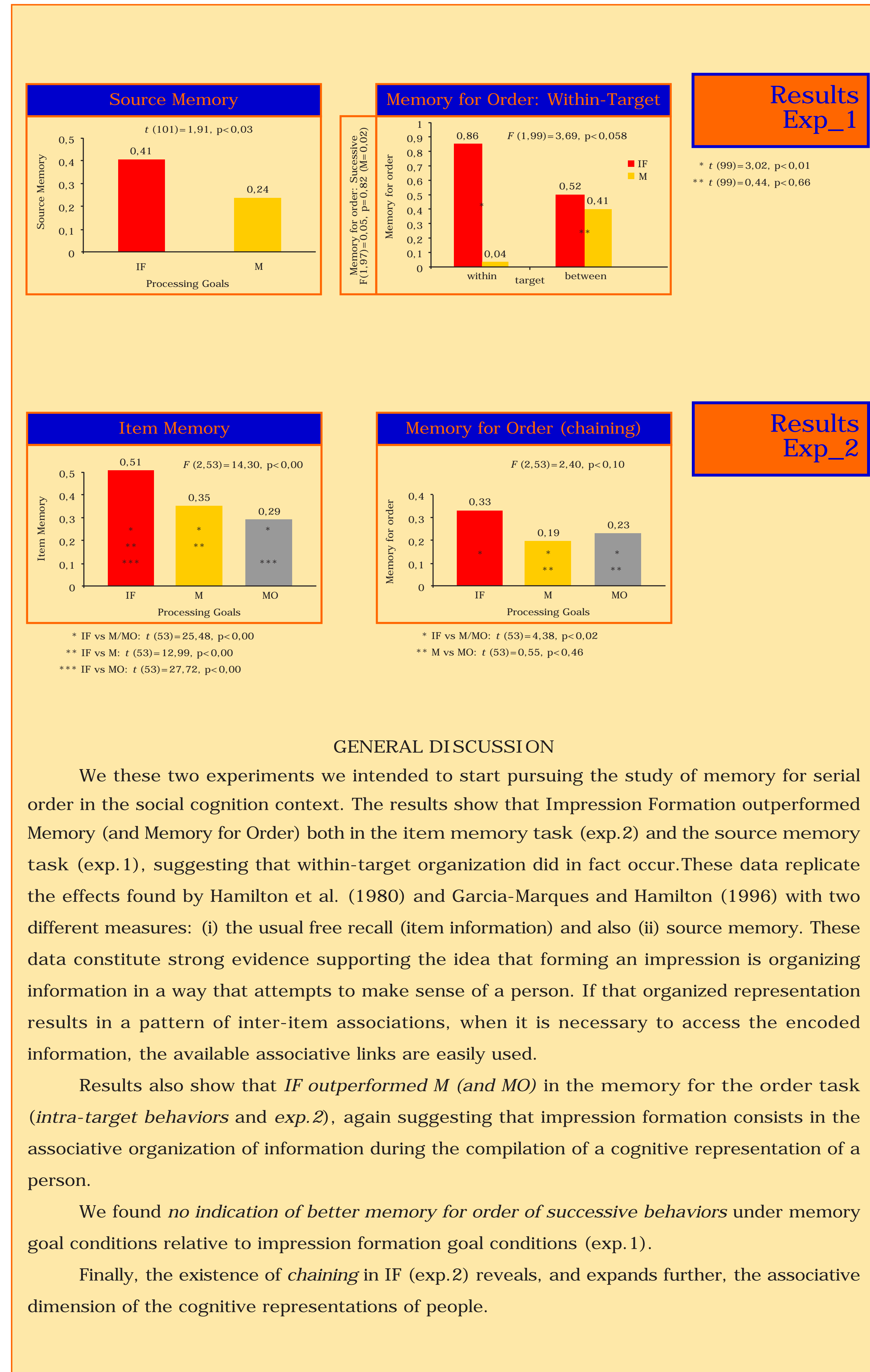
In experiment 1 participants were randomly assigned to a 2 (processing goals: IF vs. M) X 4 (list replications: V1, V2, V3 and V4) X 2 (behavior's succession: successive vs. non-successive) X 2 (behavior's nature: within-target vs. between-target) factorial mix design with the last two variables within-subjects. 32 behaviors of 4 targets were presented for 8 seconds each. 16 behaviors were organized in 4 blocks (4 behaviors each), according to the combination of the variables behavior's succession and nature. Participants performed a filler task. Finally, they were asked to order the 4 behaviors of each block according to their position in the list, and to identify the target that had performed each one of the 32 behaviors.

### Experiment 2: Design, Materials and Procedure

In experiment 2 participants were randomly assigned to a 3 (processing goals: IF, M and memorization of order) factorial design. 18 behaviors performed by a single target were presented randomly. Participants performed a filler task and finally were asked to free recall the behaviors and to assign the behaviors to one third of the stimulus list.

## Results

We expected (Experiment 1 and Experiment 2) and found that memory for the item or source would be better under an IF than M goal due to the within-target organizational process triggered by IF. In contrast, the opposite result was expected (Experiment 1), but not found, for memory for order of successive items. The organizational process did not seem to disrupt the sequence of information in the list. In addition, we expected (Experiment 1) and found that IF would outperform M conditions in ordering the behaviors that have been assigned to the same target, because the within-target organizational process facilitates the knowledge of the relative positions of within-target behaviors. Additionally, we expected (Experiment 2) and found that when the information refers to a single target, the amount of associative elaboration that characterizes IF would lead to better memory for the order, since there is no disruption of the sequence caused by the organization of the information by target, and because the associative links between the items should be stronger when people form impressions, than when people memorize information.



## GENERAL DISCUSSION

We these two experiments we intended to start pursuing the study of memory for serial order in the social cognition context. The results show that Impression Formation outperformed Memory (and Memory for Order) both in the item memory task (exp.2) and the source memory task (exp.1), suggesting that within-target organization did in fact occur. These data replicate the effects found by Hamilton et al. (1980) and Garcia-Marques and Hamilton (1996) with two different measures: (i) the usual free recall (item information) and also (ii) source memory. These data constitute strong evidence supporting the idea that forming an impression is organizing information in a way that attempts to make sense of a person. If that organized representation results in a pattern of inter-item associations, when it is necessary to access the encoded information, the available associative links are easily used.

Results also show that *IF outperformed M (and MO)* in the memory for the order task (*intra-target behaviors* and *exp.2*), again suggesting that impression formation consists in the associative organization of information during the compilation of a cognitive representation of a person.

We found *no indication of better memory for order of successive behaviors* under memory goal conditions relative to impression formation goal conditions (exp.1).

Finally, the existence of *chaining* in IF (exp.2) reveals, and expands further, the associative dimension of the cognitive representations of people.