

Space in Tongan Language and Culture

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The present investigation addresses the triadic relationship between language, culture and cognition. It adopts a computational approach to cognition whereby a limited set of universal computations in interaction with the environment (including human environment) constructs a set of knowledge structures. A large subset of these knowledge structures is labeled 'culture' as it differs from another substantial subset of knowledge structures that are 'universal' in nature. Language, on the other hand, is the result of the interaction of the whole set of knowledge structures and a (modular) subset of the universal computations.

The chosen domain on which to conduct the investigation is that of spatial relationships as represented in language, culture and cognition. The first step that is undertaken is an intensional analysis of English spatial prepositions. A set of concepts is induced from the data analyzed and later employed to describe frames of reference, suggested to be essential components of spatial cognition.

Cross-linguistic and cross-cultural data is deemed necessary in order to provide some validity of the results obtained from the analyses of English. Consequently, linguistic, psychological, and cultural data was collected in the Kingdom of Tonga, South Pacific. The analyses of these Tongan data constitute the second part of the investigation.

First, a lexico-semantic and intensional analyses of the linguistic representations of spatial relationships in Tongan language is conducted. The three Tongan spatial prepositions are analyzed followed by the analysis of a group of two sets of adverbs labeled 'directionals'. Then, a number of Tongan 'spatial' nouns are investigated. A major hypothesis is advanced in this section in which spatial relationships are represented both in Tongan 'directionals' and in Tongan 'spatial nouns' as organized 'radially' from a well defined 'center'.

Second, it follows the examination of the linguistic and psychological data obtained by the administration of a variety of tasks in order to investigate if one of the three types of frame of reference (relative, intrinsic, or absolute) has any specific status within Tongan spatial cognition. The analysis of the linguistic data shows how the three types of frame of reference are used according to specific needs and contexts. The analysis of the psychological data instead highlights a specific preference for the absolute frame of reference. The possibility that the nature of this preference lays within the peculiarity of the Tongan cultural milieu led to the administration of further tasks, 'drawing' and 'memory' tasks. The analyses of the data obtained by both tasks confirm and highlight a peculiarly Tongan or 'radial' representation of spatial relationships. It is also shown how the representations of spatial relationships intertwine with cultural parameters.

Third, three events in which Tongan patterns of exchange are instantiated are described and analyzed. The hypotheses already suggested about the 'radial' feature of Tongan spatial cognition find relevant support in the characteristics of these salient cultural events.

The findings of the analyses of the Tongan data together with those conducted on the English spatial prepositions are compatible with the computational framework proposed. A brief discussion of limitations and shortcomings of the investigation as well as salient avenues for future research opened up by the results obtained concludes the whole work.