Later events lie behind her, but not behind you: Compatibility effects for temporal sequences along the sagittal axis depend on perspective

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In order to conceptualize time, spatial models are often employed. However, time is an incredibly rich and complex concept that encompasses a variety of quite distinct domains of temporal experience (e.g., perception of duration, the relationship between the past and future, sequences of events), and the complex nature of time is captured in the diversity of the spatial models recruited. Yet, the variety of particular aspects of spatial experience that get recruited when reasoning about different types of time is unclear. Here, we examine the role that perspective may play in how we think about temporal relationships, as perspective plays a large role in how we think about space. Linguistic patterns suggest that speakers talk about temporal sequences from two perspectives: field-based (e.g., The incumbent was in a strong position ahead of the elections) and ego perspective (e.g., The week ahead of us looks busy), (Moore, 2011). In such a case, the same sagittal spatial terms (e.g., ahead) can be used in different ways (e.g., to mean later in time or earlier in time) depending on whether one is using an ego or field-based perspective. However, little is known about the psychological reality of these mappings beyond their use in language. The present study investigates whether sequential reasoning recruits the sagittal (front-back) axis differently, depending on the perspective adopted for the task. We manipulated perspective by using pronouns meant to evoke a field-based or ego perspective (“her” vs “your” high school graduation, respectively). Participants made earlier-than or later-than judgments about event sequences using a computer mouse held in front of or behind their body. We observed an interaction between pronoun, temporal reference, and response location, suggesting that participants map space onto time differently depending on the perspective from which the temporal sequences are interpreted. This observed difference in how participants map sequences of time onto the sagittal axis reveals that while time often recruits space in systematic and regular patterns in language, these mappings are flexible and interact with the perspective from which one thinks about time.