Orienteering is a physically very demanding sport, but, to the extent that a comparison is meaningful, the cognitive demands may be held to be even higher than the physical. Finding one's way through unknown terrain with the help of only map and compass involves a number of processes that constitute aspects of cognition: planning, thinking, remembering, recognition, to distinguish but a few. Quite naturally, therefore, various aspects of cognition in orienteering have been the objects of a number of studies, of which to date about 20 have been published in English.

Almost without exception, the published studies have adopted a cognitive psychology, or information processing perspective. They can thus be classified within what Winograd and Flores (1986) call a "rationalistic tradition." The hallmark of this tradition is a "representation hypothesis," which very fundamentally rests on a dualism between an "outer," "real," and objective world versus its representation which constitutes an "inner," subjective world in the mind of the individual.

Within current research on cognition, however, the rationalistic tradition is increasingly challenged, and its dualistic basis is rejected on several grounds. Alternative, non-dualistic theoretical approaches are provided by, for example, ecological psychology (Gibson, 1979), situated cognition (Brown, Collins, & Duguid, 1989), and phenomenography (Marton, 1995), to mention but a few.

In this paper a review is made of the existing studies of cognition in orienteering, focusing on their theoretical foundations and the methodological approaches applied. In conclusion, an alternative theoretical framework is outlined, and its methodological consequences are discussed. Through consulting of the map, the orienteer develops a conception of how the structure of certain parts of the terrain will appear to him or her. This conception (preconceived, or "pre-experienced," version) of the terrain (as depicted on the map) has to be harmonized with (attuned to) the conceived version of the terrain as perceptually experienced. The claim is made that what the orienteer experiences should be conceived in terms of affordances (Gibson, 1979). These affordances are lines, or trajectories, of potential movement through the terrain.

REFERENCES