Cognitive maps can be organised topological or topographical. In the first case, places and their adjacency are stored (knowledge of configuration) and in the latter case also all coordinates of the known places are stored.

Metric information can be inferred from
- path integration
- depth perception
- configurational landmark knowledge (global metric embedding, MDS)

We investigated if metric information which does not originate from path integration improves the performance in pointing and distance production. More specifically, does a central landmark, which visually connects different parts of the composed environment, but is unreachable, improve the metric representation?

**INTRODUCTION**

Knowledge of Landmark Configuration does not Improve Metric Performance in Virtual Environment Navigation*

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**EXPERIMENTAL SETUP**

The subjects were seated in front of a projection screen (half-cylindric, 7m diameter, 3.15m height)

Movement within the environment:
- Translations by a force-feedback bicycle
- Rotations triggered by pressing the buttons of a computer mouse

Egomotion is simulated with a framerate from 36 Hz.

**CONNECTIVITY CONDITIONS**

**PROCEDURE**

- pretest
- learning phase
- 28 shortcuts
  - 14 central
  - 14 peripheral
- old–new– recognition task
- map drawing

**RESULTS**

Error: mean distance to the goal for peripheral and central paths

Number of subjects doing better for peripheral or central paths

**CONTROL: The central landmark is known**

- The central landmark (CLM) is remembered in both conditions.
- Average recognition of all landmarks is reasonable (d' = 1.8).

**REFERENCES**
