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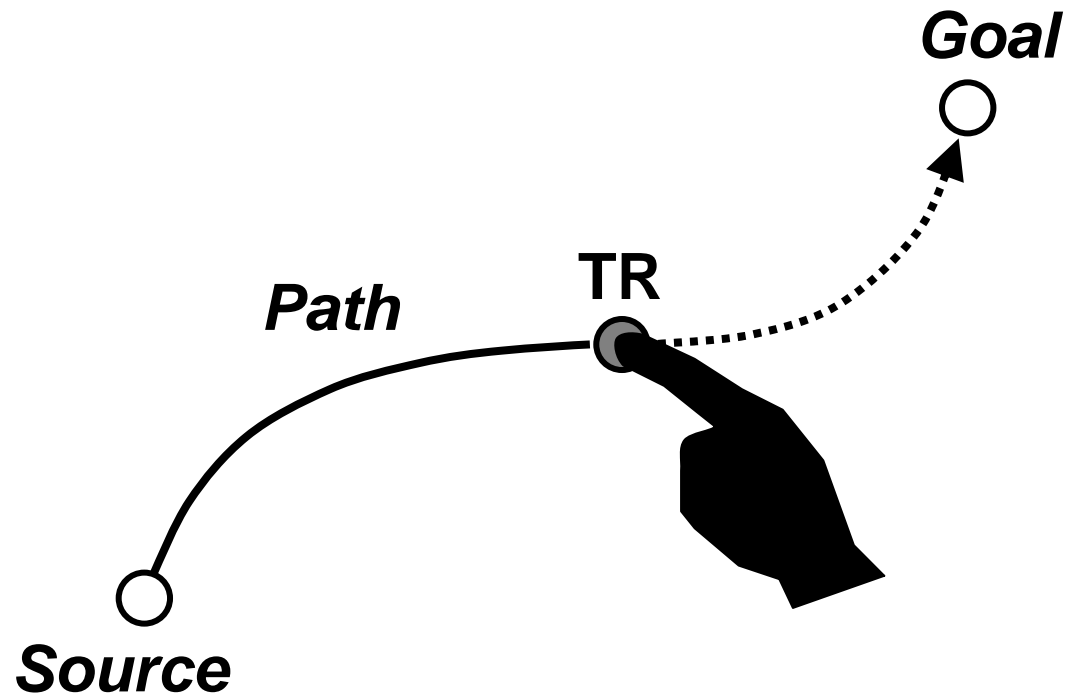
Path Schemas in Gesturing for Thinking and Teaching

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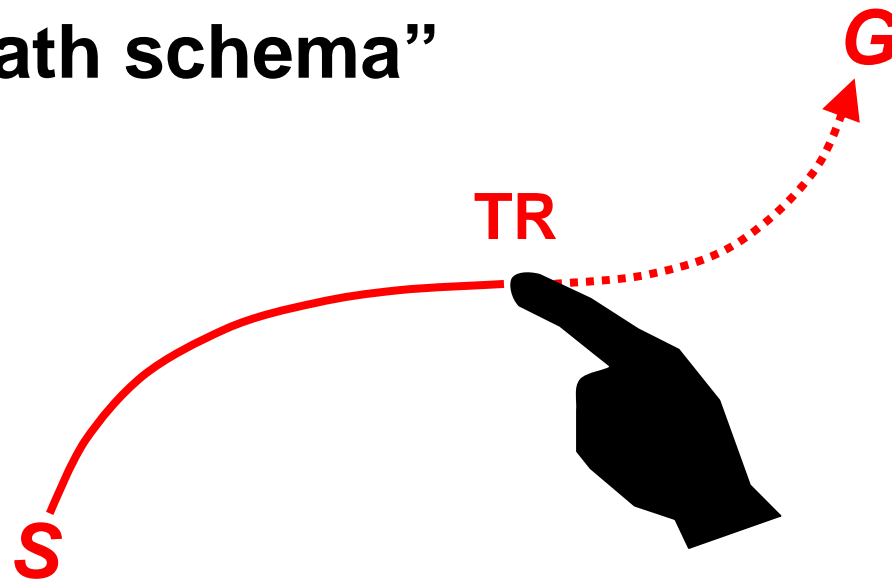
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SOURCE-PATH-GOAL image schema



SOURCE-PATH-GOAL image schema

“path schema”



Path Schemas in Gesture

The conceptualization of any process involves motion, whether actual or metaphorical (change from one state to another).

- *Path schemas provide important image-schematic structure to thought and communication.*

Gestures directly embody motion and are therefore well suited to depicting motion in the speaker's conceptualization.

- *We expect path schemas to motivate gestures and to partially structure their form.*

Gesturing for Thinking

Gestures for *thinking* serve the speaker; they play a functional role in solving the problem at hand.

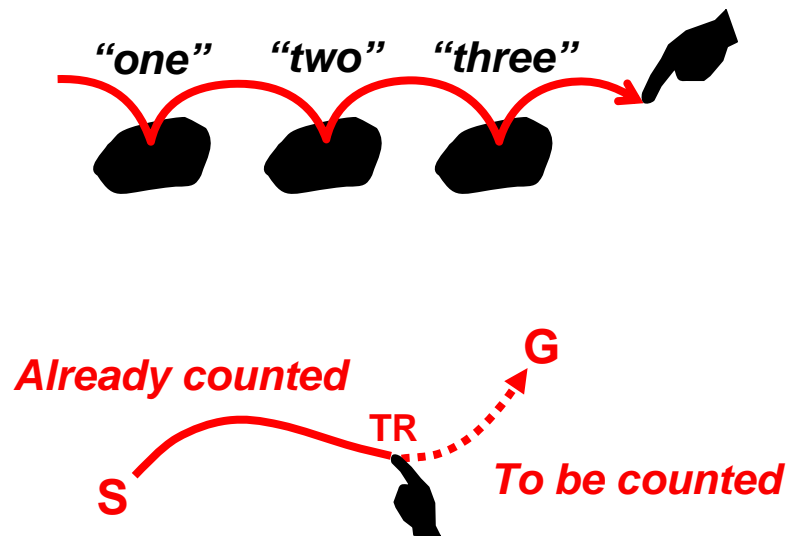
The problem may be related to reasoning (computing) or to communicating (word-finding).

Example that typically involves gesturing for thinking

What is the 11th letter of the alphabet?

Path Schemas in Gestures for Thinking

Counting Objects



Video montage of counting gestures

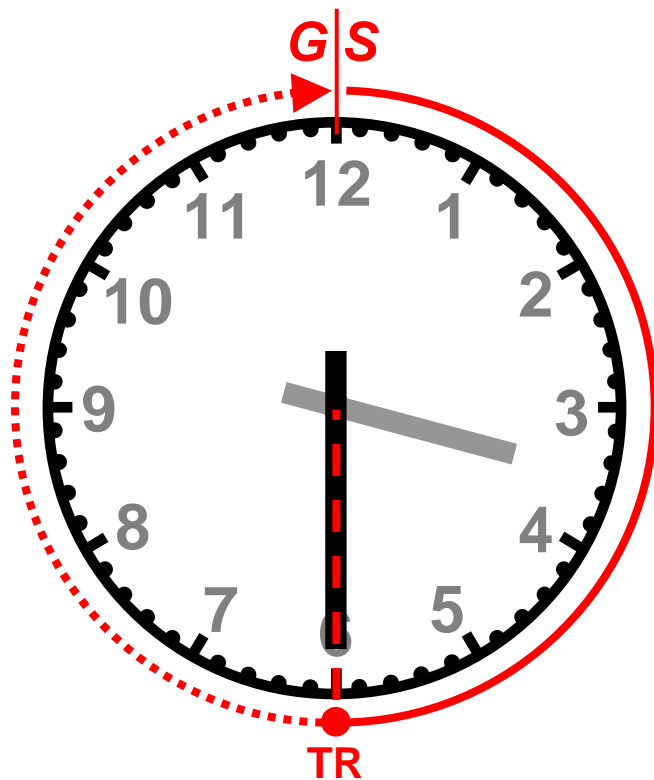
Gesturing for Communicating

Gestures for *communicating* are directed toward others; they play a functional role in shaping the listener's conceptualization and aligning it with the speaker's (creating intersubjectivity).

Gestures for *teaching* may be more deliberate and performative (subject to greater awareness and conscious control) than those produced in ordinary conversation.

Path Schemas in Gestures for Teaching

Minute Hand Cycle



*Video montage of minute hand cycle gestures
(on clock face and in air)*

Incidental vs. Essential Path Structure

Circle



Video of tracing circle on clock face

Count by Fives



Video of counting on clock face

Incidental vs. Essential Path Structure

Circle



it's the **same circle shape...**

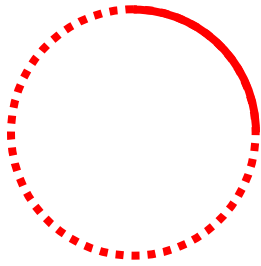
Count by Fives



is we count by fives when we move this **from number to number—there's five minutes between each number**

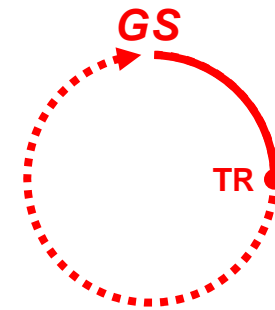
Incidental Path Structure

Circle



Shape

Minute Hand Cycle



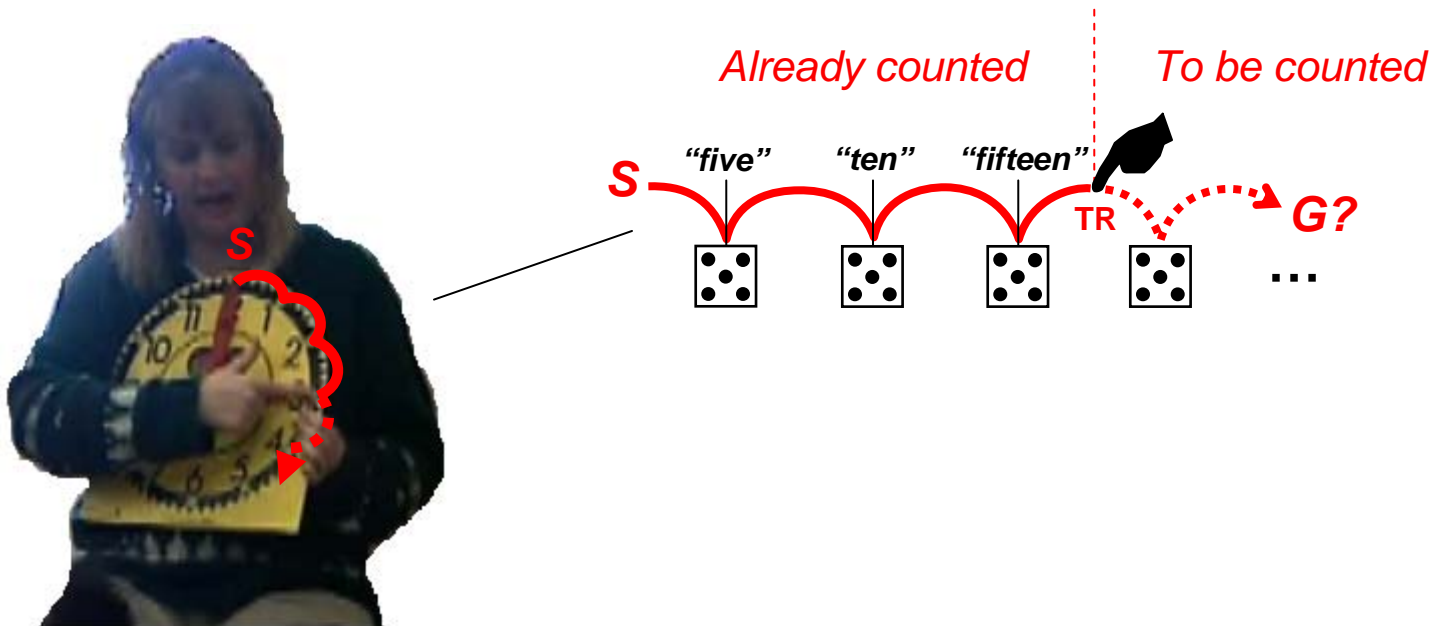
Movement through
one clock hour



it's the **same circle shape...**

Essential Path Structure

Count by Fives



is we count by fives when we move this
from number to number—there's five
minutes between each number

Incidental vs. Essential Path Structure

Circle



Video of tracing circle on clock face

Count by Fives



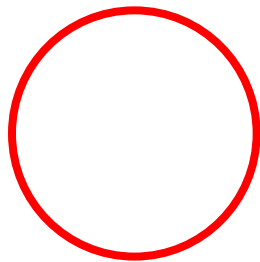
Video of counting on clock face

All Three in Sequence

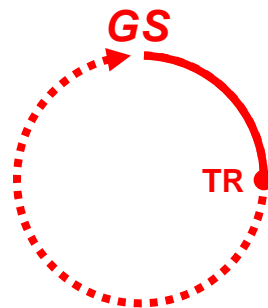
Video of three sequential gestures



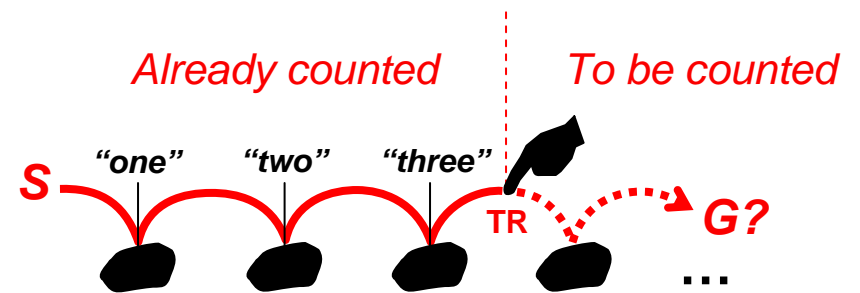
Circle



Minute Hand Cycle



Count by Ones

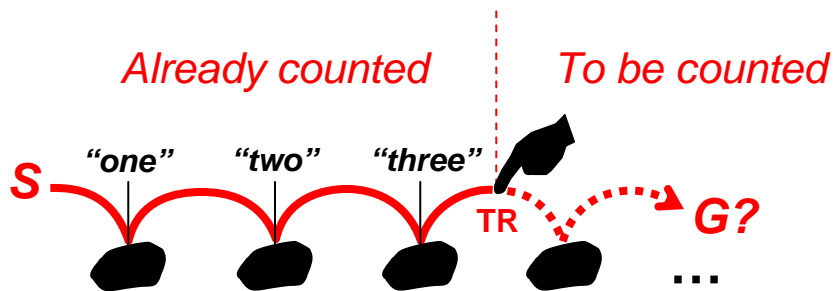


Combination

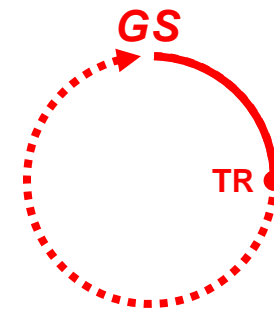
Video of two-gesture combination



Count by Ones



Minute Hand Cycle



Conclusions

SOURCE-PATH-GOAL image-schematic structure is evident in gestures that support the speaker's cognition (*gesturing for thinking*) and gestures directed at guiding the listener's conceptualization (*gesturing for teaching/communicating*).

- *This supports the argument that image schemas motivate and partially structure gestures for both cognitive and communicative purposes.*

The image-schematic structure evident in the gesture may be *incidental* (reflective of the speaker's conceptualization but not critical to communication) or *essential* to proper understanding. In either case, the gesture makes the image-schematic structure available for the listener's apprehension.

References

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