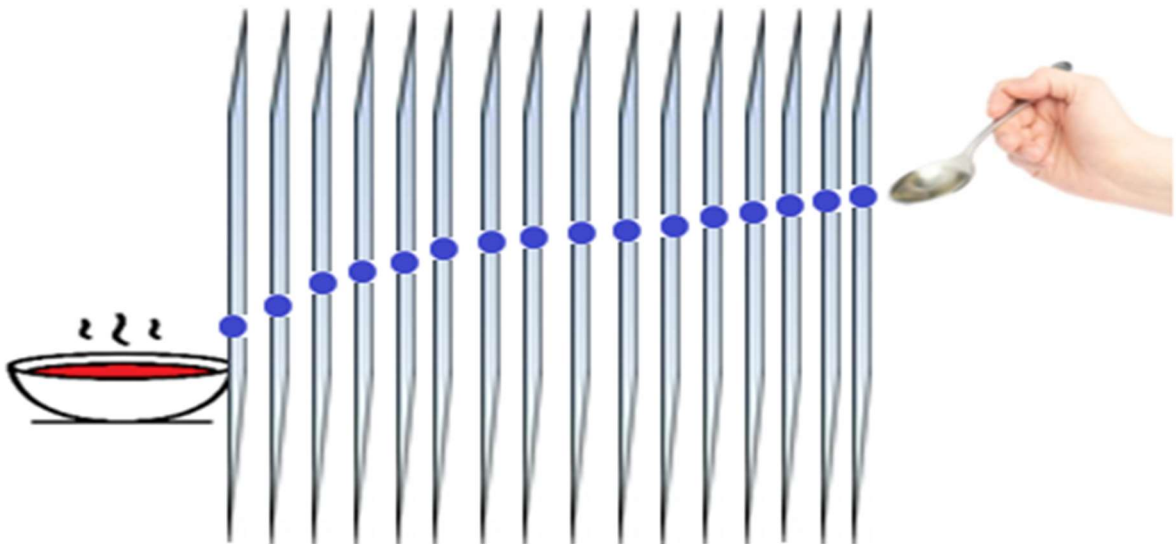


EATING

Prior to eating soup we always first construct a perceptual image of a latent action trajectory shape out of the perspective of the spoon bowl
– The scientific evidence



Caught In A Line

The explanatory model of all motoric movement actions

N.J. Mol
May 2024 ©

Introduction

The explanatory model of the motoric movement action provides a universal explanation of all functional perception processes within all goal-directed actions. It demonstrates that performing any conceivable action always requires the simultaneous perception of three autonomous foci¹, in accordance with J.J. Gibson's theory, which includes both the movement of the animal/organism and the movement of the environment. When eating soup with a spoon from a plate, one autonomous focus remains engaged with (the movement of) the plate as the environmental object, universally representing a catching action. The other two autonomous foci are concerned with the perception of movement within the egocentrically executed action, i.e., the movement of the spoon(-bowl) along an action trajectory shape (toward the plate), which universally represents a throwing action.

This article specifically focuses on the two foci belonging to the egocentric throwing action of the spoon(-bowl) in relation to eating soup. The explanatory model shows that every conceivable throwing action requires a compelling cooperation between an autonomous internal focus and an autonomous external focus. This insight, that two autonomous foci are present instead of a single undivided motor action, not only allows a final and ending specification of all individual perception processes but also reveals as a novelty that a coupling within the egocentric throwing action itself is capable to occur².

The explanatory model of the motoric movement action thus provides a complete description of the *tau*-coupling process, wherein the essence of the task, the primary focus, is executed through (the perception of) the movement of the spoon(-bowl) over a pre-planned action trajectory shape between the current position of the spoon and the plate³. This perceptual image is therefore determined in advance within a tactical consideration and involves identifying the future sequential positions the spoon(-bowl) must occupy to achieve a successful action. Sequential positions of any object effectively always create line segment shapes, and when the action is actually executed, the current position of the spoon(-bowl) is going to fill in that perceptual image step by step. Thus, it can be observed within a line segment shape that the *gap* of the latent positions *P* gradually disappears and, in full accordance with the findings of D.N. Lee, produces the *tau*-value, which plays a crucial role in the completion of the motor action in cooperation with the secondary focus⁴.

The explanatory model of the motoric movement action partly relies on logical reasoning but also presents scientific evidence. This chapter provides scientific proof that within the eating of soup, we always first create a perceptual image of a latent successful action trajectory shape out of the perspective of the spoon(-bowl) before we actually perform any action.

¹ [The cortical streams mediate the grasping of a cup equal as they mediate within the nerve spiral \(youtube.com\) https://www.youtube.com/watch?v=QP4vPVAw-Yg](https://www.youtube.com/watch?v=QP4vPVAw-Yg)

² D.N. Lee did indeed identify the *tau*-value associated with the primary focus, but he considered the egocentric action as one indivisible whole. His lifelong quest to find the phenomenon it should be connected to remained unsatisfied because he never realized that the coupling occurs within the egocentric action itself.

³ https://www.researchgate.net/publication/376450400_Scientific_evidence_of_the_origin_of_two_autonomous_foci_and_how_their_roles_have_evolutionarily_reversed_Within_eating_the_transitioning_from_random_motor_activity_to_the_execution_of_deliberate_acti

⁴ https://www.researchgate.net/publication/375289869_The_tau-coupling_process_within_eating_demonstrates_that_we_absolutely_do_not_need_a_motor_plan_Executing_an_external_action_trajectory_shape_over_which_the_bowl_of_the_spoon_moves_dictates_all_intern

Prior to eating soup we always first construct a perceptual image of a latent action trajectory shape out of the perspective of the spoon bowl – The scientific evidence

The scientific evidence

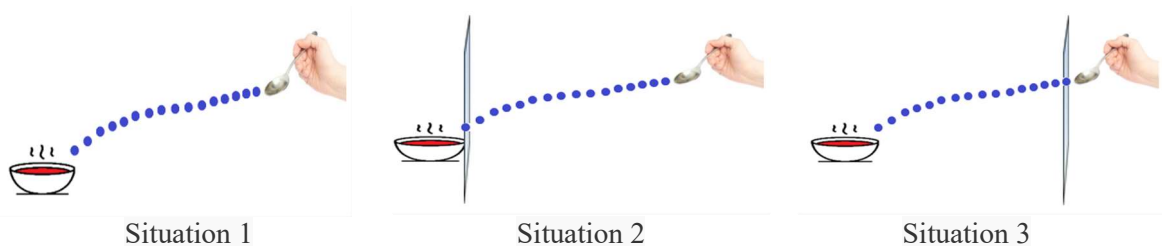
The evidence is very straightforward. You can verify it yourself through an empirical study where you are the test subject or you ask a test subject to try to eat soup. The only instruction given is to only execute the action if the test subject believes there is a realistic possibility of actually getting the spoon reaching the soup.



Images: The scientific proof is based upon the competence to visualize a giant huge glass shopping window. The left image shows a normal dimension of such a window. In relationship to the scientific proof you need to magnify that image 10 to 20 times. Like in the right image.

Choose a random table with a random placed plate of soup and create the following circumstances:

- Situation 1: Do not alter the environment (zero measurement). Let the test subject just eat soup.
- Situation 2: Place a giant huge glass shopping window (height 20 meter x width 30 meter) between the spoon and the plate, close to the plate.
- Situation 3: Place a giant huge glass shopping window (height 20 meter x width 30 meter) between the spoon and the plate, close to the spoon.
- Situation 4: Place a giant huge glass shopping window (height 20 meter x width 30 meter) between the spoon and the plate, at any random position P.



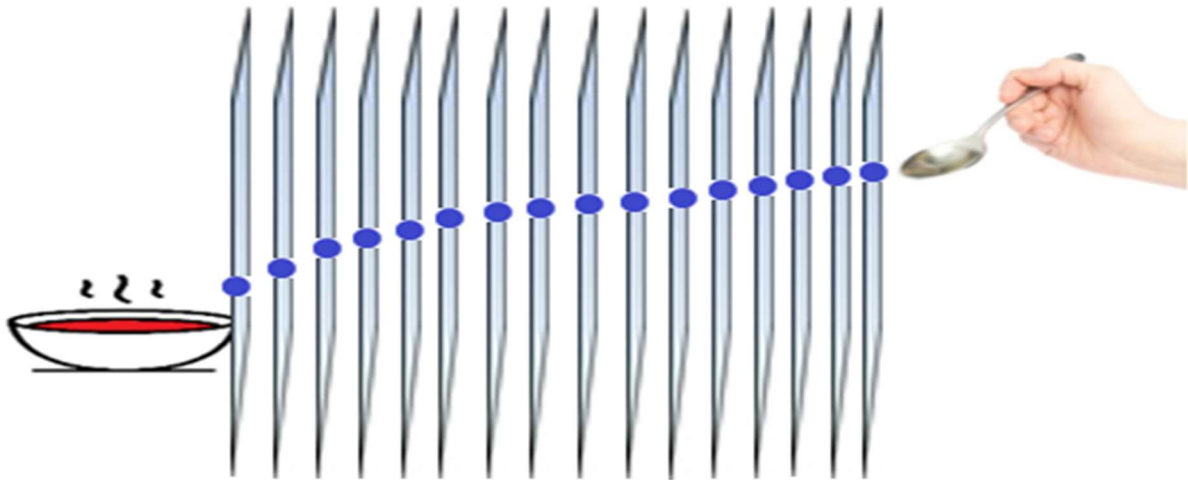
Images: In situation 1 a test subject will normally execute the eating action. In situations 2 and 3, where a giant glass store window is placed between the spoon and the plate, the test subject will not start an eating action with the intent to actually get soup into the bowl of the spoon. This is because there is *one* (!) position P that is perceived as blocking the spoon.

Conclusion:

In situation 1, you and/or the test subject will just execute the eating of the soup. In situations 2, 3, and 4, you and/or the test subject do not initiate an eating action with the intent to reach the soup. Situations 2 and 3 do not provide significant insight on their own, but situation 4 clarifies everything. Whether the giant glass shop window is placed near the plate or near the spoon makes no difference to the test subject. If there is a large shop window anywhere clearly present, the test subject will not

Prior to eating soup we always first construct a perceptual image of a latent action trajectory shape out of the perspective of the spoon bowl – The scientific evidence

initiate a motoric action with the intention to a successful action. This applies to every conceivable position P of the shop window, from the very first position $P(0)$ near the bowl of the spoon to a shop window occupying the last position $P(n)$ just before the plate.



Situation 4

Image: In situation 4, it becomes clear that prior to the actual execution, we consider all consecutive *future* (!) positions of the spoon(-bowl). It doesn't matter where the shop window is positioned between the spoon and the plate; the action is not performed. Mathematically, one can argue that an uninterrupted series of consecutive positions P creates a line segment or line segment shape (action trajectory shape). The image provides a perfect visual representation that within a throwing action, we first form a perceptual image of the entire latent action trajectory shape before we actually execute anything.

This means that we assess every position $P(0-n)$ between the spoon and the plate beforehand, clearly determining whether each position P allows the spoon(-bowl) to pass through so that it can ultimately reach the soup within the plate. In relationship to which it can be observed that if one position P is not *empty* (!), the mission is aborted. Upon which you can draw the factual conclusion that we will have *to look at* (!) c.q. we will have to perceive every position $P(x)$ between the spoon(-bowl) and the plate beforehand if that specific position $P(x)$ is also allowing the physical dimensions of the spoon to pass. Mathematically, an uninterrupted series of consecutive positions P can be designated as a line or line segment shape (action trajectory shape). This completes the scientific proof that within eating soup, we first form a perceptual image of the entire latent action trajectory shape out of the perspective of the spoon(-bowl) before we actually execute anything.