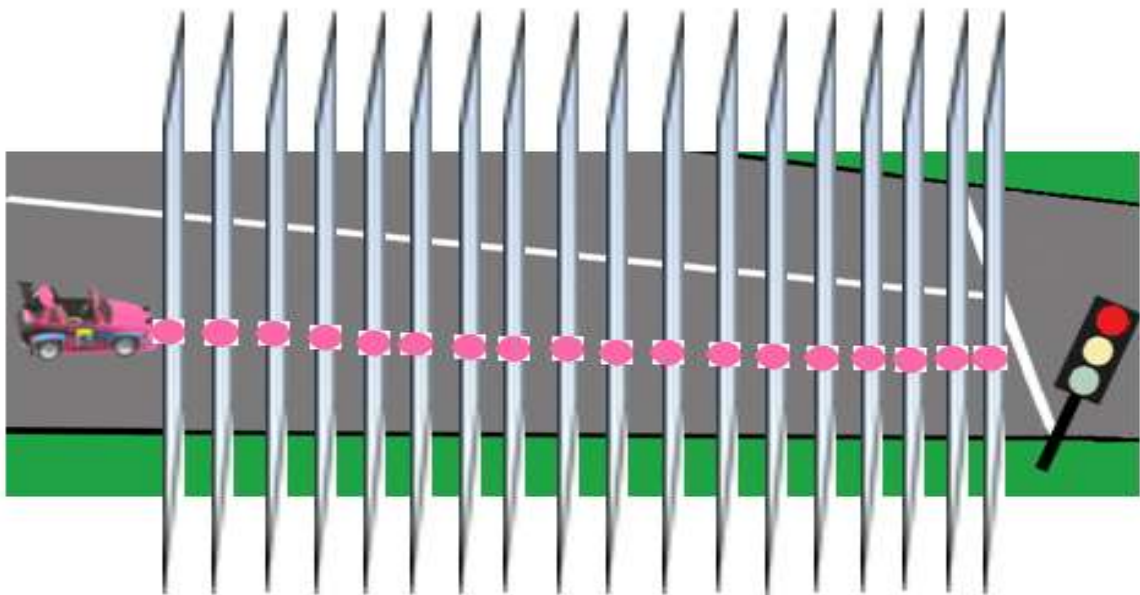# CAR DRIVING

Prior to driving toward a traffic light we always first construct a perceptual image of a latent action trajectory shape out of the perspective of the car – 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 foci[1], in accordance with J.J. Gibson's theory, which includes both the movement of the animal/organism and the movement of the environment. While driving a car towards a traffic light, one autonomous focus remains engaged with (the movement of) the traffic light, which universally represents 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 car along an external action trajectory shape (toward the traffic light), which universally represents a throwing action.

This article specifically focuses on the two foci involved in the egocentric throwing action of guiding a car to, for example, a traffic light. 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 occur[2].

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 car over a pre-planned action trajectory shape between the current position of the car and, the stop line belonging to, the traffic light[3]. This perceptual image is therefore determined in advance within a tactical consideration and involves identifying the future sequential positions the car 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 car 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 focus[4].

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 car driving, we always first

---

[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

[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/376784297_Rowingcanoeing_-_Scientific_evidence_that_random_motor_activity_implicitly_leads_to_the_factual_occurrence_of_an_internal_and_an_external_focus_and_how_their_dominancy_evolutionary_has_reversed

[4] https://www.researchgate.net/publication/375689254_The_tau-coupling_process_within_rowing_demonstrates_that_we_absolutely_do_not_need_a_motor_plan_Executing_an_external_action_trajectory_shape_over_which_the_boat_moves_dictates_all_internal_sensorimot?_sg%5B0%5D=VIut6BtQiZ-cBRHxFdyfMxIk9NSmk7yyGcH96M-jtiOsg07uR0T_lgq44dSnzfUkXkk0W5Gk1p4YKdcm-

create a perceptual image of a latent successful action trajectory shape toward a traffic light out of the perspective of the car before we actually perform any action.

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 drive towards a traffic light. The only instruction given is to drive the car only if the test subject believes there is a realistic possibility of actually passing the traffic light.

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 road with a traffic light and create the following circumstances:

Situation 1: Do not alter the environment (zero measurement). Let the test subject drive the car normally.

Situation 2: Place a giant huge glass shopping window (height 20 meter x width 30 meter) between the car and the traffic light, close to the car.

Situation 3: Place a giant huge glass shopping window (height 20 meter x width 30 meter) between the car and the traffic light, close to the traffic light.

Situation 4: Place a giant huge glass shopping window (height 20 meter x width 30 meter) between the car and the traffic light, at any random position P.
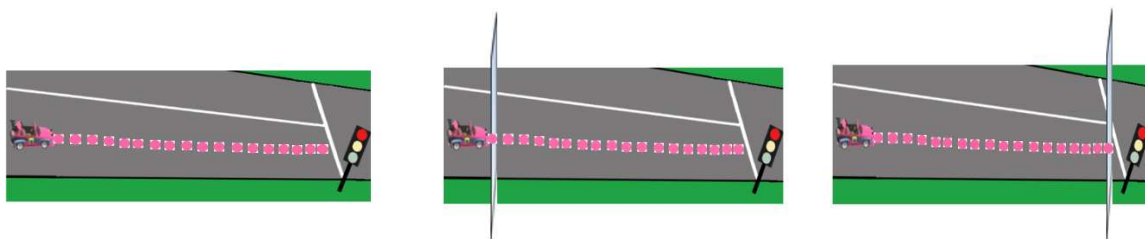

Images: In situation 1 a test subject will normally drive the car toward the traffic light. In situations 2 and 3, where a giant glass storefront is placed between the car and the traffic light, the test subject will not start a driving action with the intent to pass the traffic light. This is because there is *one* (!) position P that is perceived as blocking the car.

Conclusion:

In situation 1, you and/or the test subject will just drive the car towards and cross the traffic light. In situations 2, 3, and 4, you and/or the test subject do not initiate a movement action with the intent to

actually pass the traffic light. 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 car or near the traffic light makes no difference to the test subject. If there is a large shop window anywhere clearly present, the test subject will not initiate a car driving action with the intention to end up across the traffic light. This applies to every conceivable position P of the shop window, from the very first position P(0) near the car to a shop window occupying the last position P(n) just before the traffic light.
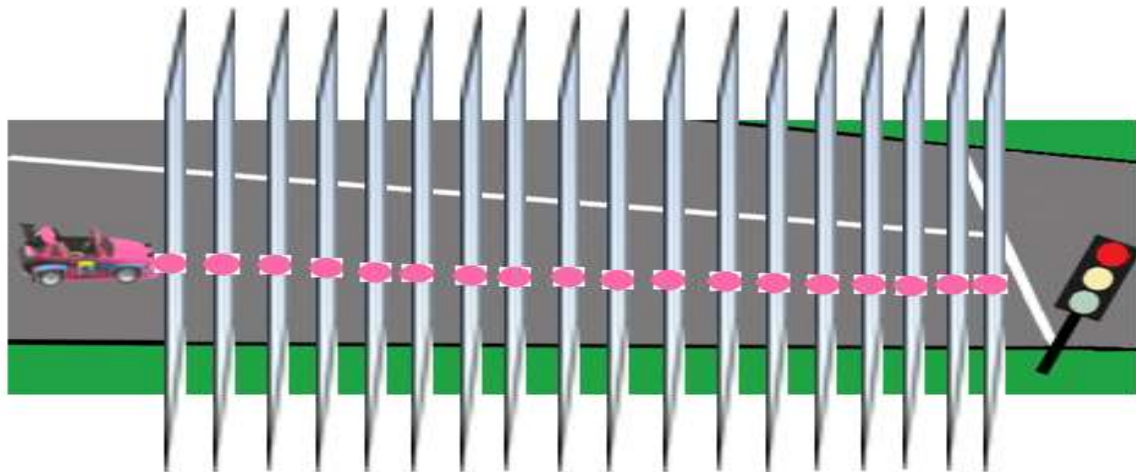
Situation 4

Image: In situation 4, it becomes clear that prior to the actual execution, we consider all consecutive *future* (!) positions of the car. It doesn't matter where the shop window is positioned between the car and the traffic light; 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 the driving 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 car and the traffic light beforehand, clearly determining whether each position P allows the car to pass through so that it can ultimately cross the traffic light. 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 car and the traffic light beforehand if that specific position P(x) is also allowing the physical dimensions of the car 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 a car driving action, we first form a perceptual image of the entire latent action trajectory shape out of the perspective of the car before we actually execute anything.