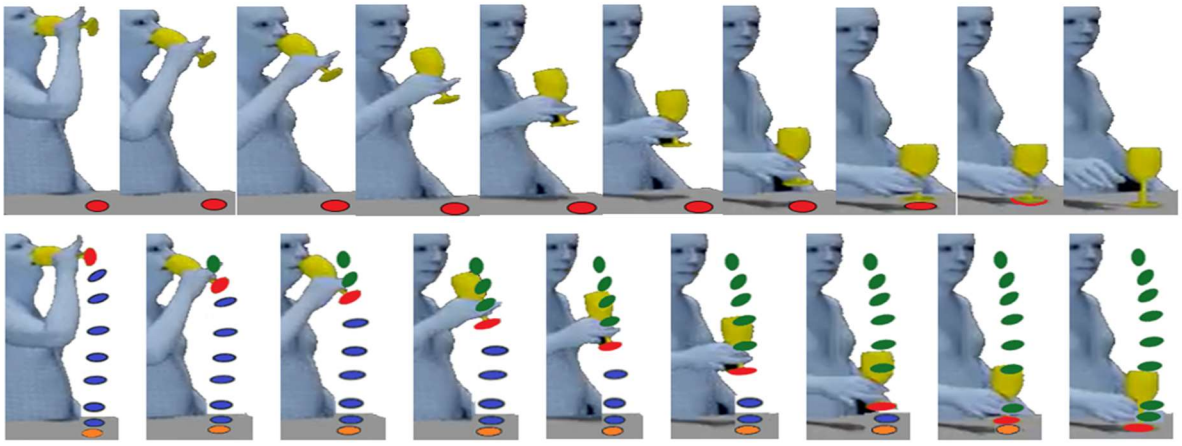
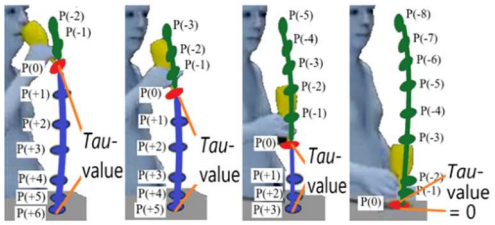
Placing a glass on a coaster requires a compelling collaboration between an internal and an external focus – The sequential positions of the bottom of the glass determine the primary focus





Caught In A Line

The explanatory model of all motoric motoric actions

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https://www.explanatorymodel.nl/common-daily-actions/placing

Introduction

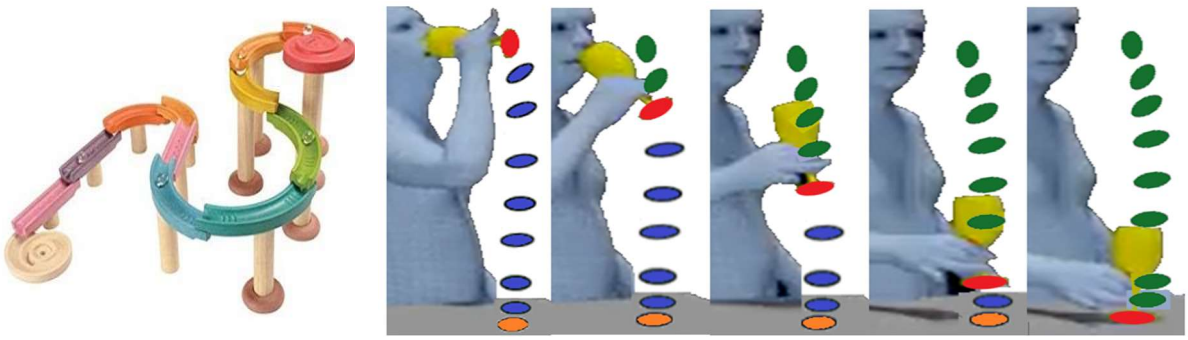
Traditionally, science has assumed that one motor action encompasses one focus. This assumption has seemingly been so logical that it has never been questioned. However, this has led to the absence of a plausible explanation for the functional perception processes underlying the execution of all motor actions, even after 100+ years of movement sciences. In 2016, an explanatory model was found that is capable of identifying all functional perception processes within any imaginable motor action. With near certainty, it shows that every motor action involves the perception of three autonomous foci interacting with each other. When placing a glass on a coaster, this interaction involves one focus that remains solely occupied with the movement of the coaster, which can be universally characterized as a catching action. The other two foci, conversely, are only concerned with the egocentric action and involve the movement of (the bottom of) the glass, which can be universally characterized as a throwing action. Within this egocentric throwing action, scientific evidence indicates that an internal (secondary) focus must always be directed at an external (primary) focus. In relationship to which it must expressly be noted that these two foci represent entities that fundamentally differ from the current scientific terminology.
The explanatory model emphasizes that the essence of a motor task always involves the external movement of an action object (outside our body) along an action trajectory shape, but that the action object will never be capable to move on its own along that line. The action object is often an inanimate object (pen, needle, key, tennis racket, ball, letter, pointer (pc) etc.) that we hold during an action, and even though the fingertips, during a grasp action with the hand on the outside, consist of living cells, we absolutely aren't capable of moving them there over an action trajectory shape. The explanatory model unequivocally shows that initiating the movement of an action object outside our body is only possible by using secondary perception of autonomous internal movements (within our body).
Compared to the current state of science, the explanatory model represents a revolutionary breakthrough, revealing that two foci must enter into an obligatory connection simultaneously, and this universal stacking of two perceptions of two autonomous movements occurs in every motor movement

action. They are clearly autonomous because they belong to two incompatible worlds. Observations of movement inside and outside the body are actually never able to overlap.

This article focuses entirely on the motor task of placing a glass on a coaster. The article convincingly shows that only (the bottom of) the glass c.q. the movement of (the bottom of) the glass, comparable to a marble in a marble run, executes this action trajectory shape and thereby completes the essence of the task. For that reason, primary attention must be directed to the external movement of (the bottom of) the glass. While that bottom can only be moved with entirely different movements within the body that extend only to the sides of the glass. The attention needed for this must serve the main goal and is therefore referred to as the secondary (internal) focus. The explanation shows that every conceivable motor action is based on the same two foci. Due to this universal character, the explanatory model creates the most ultimate conceivable ecological argument.
The article does not delve deeply into the differences with the current state of science, because there is still no clear consensus on this subject within the scientific community.

The primary focus in relationship to placing a glass on a coaster encompasses the perception of movement outside the body

The explanatory model of all motoric movement actions, as demonstrated within placing a glass on a coaster, shows that only the (bottom of the) glass c.q. the movements of the (bottom of the) glass, will execute the essence of the task and therefore represents the primary focus within this action. The explanatory model provides scientific evidence that a motor movement action always involves two successive autonomous phases. The tactical consideration first aims to create a perceptual image of a latent action trajectory shape over which, in this case, the (bottom of the) glass c.q. the movements of the (bottom of the) glass promises to become successful, and only then proceeds to actual action.



Images: Placing a glass involves merely moving (the bottom of) the glass to, for example, a coaster (orange). The essence of this task is thus solely executed by the autonomous movements of (the bottom of) the glass, and therefore, that is the main process we need to observe. The glass will follow an action trajectory shape, similar to a marble moving through a marble run (left). Within every conceivable motor action, the current position of the marble or the action object will precisely demarcate the division between the manifest and latent part of the action line. The series of images (right) shows the current position of the bottom of the (yellow) glass at position P(0) marked in red, clearly illustrating this bifurcation. The positions already traversed are indicated in green, while the latent positions yet to be traversed are shown in blue.

When we factually start the action, we are going to fill in the perceptual image of the action trajectory using the glass. So within the primary focus, this is the essential process that our perception processes must guide, and surprisingly, science has overlooked this process entirely until now. In subsequent articles, it will become evident that filling in the action trajectory by the (bottom of the) glass yields

the crucial *tau*-value to which the secondary focus is compellingly linked, and the mediating role of the cortical streams in this process will be explained.

Image: The explanatory model demonstrates that within every imaginable motor action, an autonomous internal focus must be directed towards an autonomous external focus. This insight reveals the scientific evidence that we can never execute any action trajectory shape identically, as it involves the stacking of perceptions from autonomous movements that belong to two incompatible worlds. For example, you have never picked up a coffee cup in an identical way or executed a free throw in basketball in an identical manner. Similarly, you will never be able to produce an identical action trajectory when placing a glass on a coaster. Within which the explanatory model hastily adds that it has never been the objective to achieve such perfect uniformity within an ecological evolution. Creating similar line forms is far more efficient and effective than creating identical action trajectory shapes, to the extent that a parsimonious organism would have never evolved otherwise.

Maybe we do construct a perfect straight action trajectory when we create a latent perceptual image of the future positions of the (bottom of the) glass within this task. However, due to the fact that you can only execute the movement of the (bottom of the) glass with the perception of an entirely different autonomous movement, the (bottom of the) glass will inevitably deviate from that "perfect" original pre-perceptual image at every position P within the action trajectory. This process is, therefore, guided by the double and mutual process of the cortical streams, representing the brilliant ecological response of the body to execute every motor action in the most efficient and effective way possible. The ventral and dorsal streams continuously interact with each other to correct the inevitable deviations, but this interaction does require a (very short) reaction time[1]. As a result we can never perform one motor action identically (conform Bernstein) and the (bottom of the) glass will always follow a different zigzag pattern within a placing task.

<u>The secondary focus in relationship to the movement of a glass towards a coaster encompasses the perception of movement inside the body</u>

When one starts to realize that the primary focus within this placing task solely concerns the movements of the (bottom of the) glass, it implicitly becomes evident that the (bottom of the) glass itself isn't capable to move at all. This analogy is strikingly similar to a ball during a free throw in basketball or various other inanimate objects like pens, tennis rackets, cricket bats, spoons, knives, bottles, pointers (pc) and more, which clearly never move on their own. But even when we grasp a coffee cup

[1] The specific reaction time concerning cortical streams in relation to the explanatory model has never been examined. General information and empirical experiences provide an indication that the reaction time is estimated to be around 0.1 seconds; "It takes about one-tenth of a second for information about the visual scene to reach the back of the brain or the occipital lobes. During the next tenth of a second, the visual information is analysed in two separate ways. Figure 2 shows the two pathways of the dorsal stream and the ventral stream. The dorsal stream runs from the occipital lobes to three locations, the back of the brain at the top (called the posterior parietal lobes), a vertical strip of brain in the centre (called the motor cortex) and the front of the brain (called the frontal cortex). The ventral stream runs from the occipital lobes to the back of the brain at the bottom (called the temporal lobes)": Cerebral Visual Impairment - Working Within and Around the Limitations of Vision; Gordon N Dutton; http://www.liv.ac.uk/~pcknox/Publications/trimble/CVI%20chapter%20for_hers-Dutton.pdf

with our hand, the explanatory model demonstrates that the hand, and consequently the relevant fingertips, must also be considered as lifeless action objects. The outer layer of the fingertips does comprise living cells, but it is absolutely incapable of moving the fingertips in an action trajectory shape outside the body with those living cells. We can only induce movement in the outer layer of the fingertips through internal body movements. While they may approach the outer surface of the fingertips, they will always remain within the confines of the body. In the case of the placing of a glass, we can only haptically perceive the (outer sides of the) glass with the (outer surface of our) fingertips, and we can only proprioceptively[2] sense how movements within our body influence that haptic contact.

Images: Conversely to current science, the explanatory model of the motoric movement action demonstrates much more the universal overarching basis of all motor actions. Placing a glass with the hand is not seen differently from placing a shoe with the hand or placing a shoe with a foot. Walking thus involves the same perception processes as placing consecutive glasses, and whichever motor action is taken as an example, the stacking of two autonomous foci will always show the same universal cooperation.

Also within this motor action the essence of the task is implicitly connected to the observation of the primary focus, leading us often to be unaware of the secondary focus during many motor actions, especially when they involve simple observations like within a glass placing task. However, in highly complex motor actions, such as a tennis serve, attention is conversely only directed towards the secondary focus c.q. the serving technique. Completely ignoring the fact that the primary focus compels the realisation of an outgoing ball trajectory shape (OBT). Which is the sole essence of a tennis service. With some practice, you can consciously perceive the two foci simultaneously within many motor actions. For instance, in a grasping action, you can perceive the action trajectory shape externally while also focusing on internal movements. Which can be experienced within a glass placing task as well.

[2] Proprioceptive perception comprises two autonomous aspects: Limb Position and Movement. The explanatory model makes a clear connection between these two proprioceptive phenomena and their relation to the (bottom of the) glass within this motor action. The overall glass displacement technique is influenced by our awareness of limb position, allowing us to control the general movement of the glass towards the coaster. Where this general perception is transferred to the exact position of the (bottom of the) glass encompasses the phenomenon of movement.