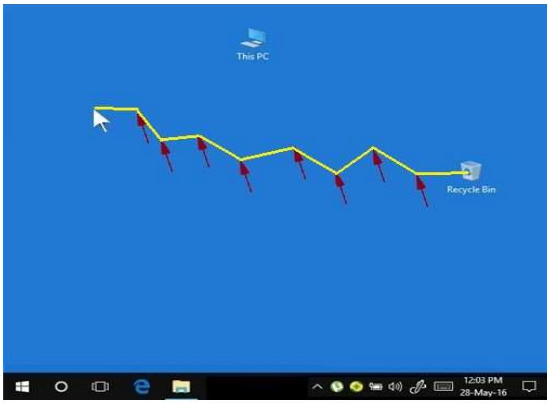
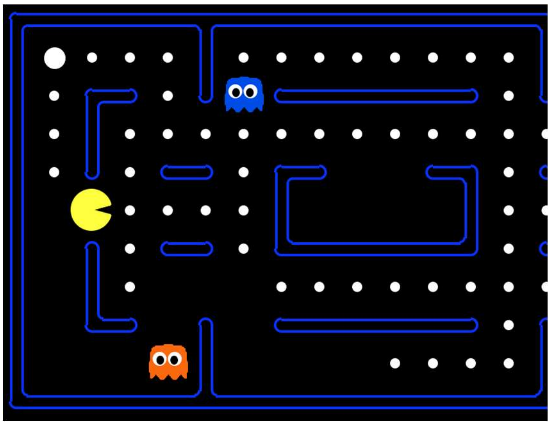
The functional perception processes related to the movement of a pointer at a computer screen - The execution of any imaginable motoric action requires the compelling cooperation of an internal and an external focus





Caught In A Line
The explanatory model of all motoric motoric actions

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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 150 years of movement sciences.
In 2016, an explanatory model was found that is capable of identifying all functional perception processes within any conceivable motor action. With a high degree of certainty, it conversely demonstrates that every motor action can only be executed through a compulsory coupling of two foci: an internal (secondary) focus must always be directed at an external (primary) focus. In which it should be explicitly noted that these two foci represent entities that fundamentally differ from current scientific terminology.
The explanatory model emphasizes that the essence of a motor task always involves the 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 thing (pen, spoon, tennis racket, ball, 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. 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 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.
Within this article, the previous explanation is fully focused on the action of moving a pointer to an icon on a computer screen. The explanation demonstrates that the execution of any conceivable motor action occurs entirely in accordance with the same two foci. This reaffirms the universal nature of the explanatory model and provides the most ultimate ecological argument. The publication does not extensively address the differences with the current state of science because there is no significant consensus in the scientific community on this subject.

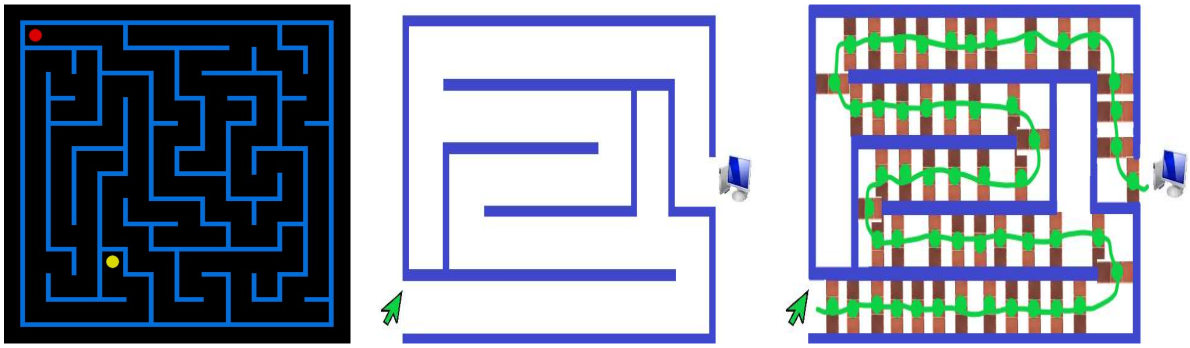
The primary focus in relationship to the movement of a pointer to an icon involves the perception of a movement outside the body

The explanatory model of all motoric motoric actions shows that in this action, solely the pointer or the movements of the pointer carry out the essence of the task, thus representing the primary focus within this action. In addition the explanatory model provides scientific evidence[1] that a motor

[1] Just like the explanatory model of all motoric movements provides scientific evidence within the context of a free throw in basketball and a grasping action, it also provides scientific evidence for performing this computer task: https://www.researchgate.net/publication/372719694_When_moving_a_pointer_on_a_computer_screen_you_are_mainly_attentive_to_where_'nothing'_is_-_The_scientific_evidence_regarding_visual_perception_within_each_motor_action.

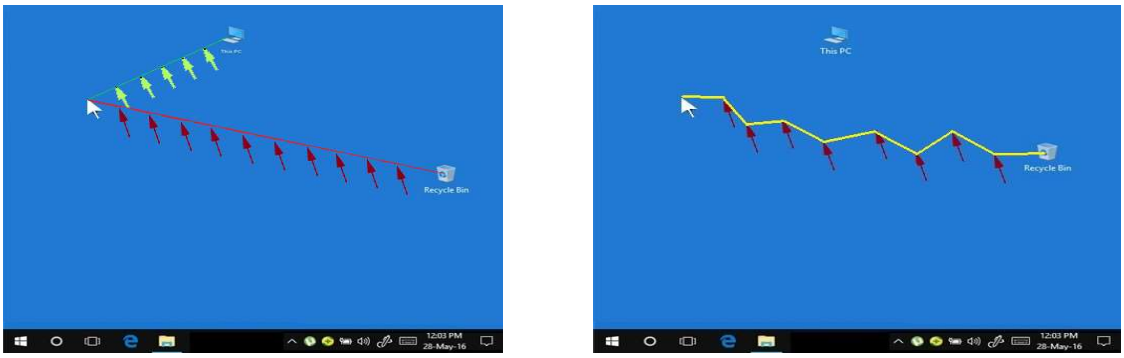
movement action always consists of two consecutive autonomous phases. Within the tactical action, the goal is to construct a perceptual image of a successful (!) latent action trajectory shape along which the pointer or the movements of the pointer will most probably succeed in reaching the icon. Prior to any factual execution.

In other words, the explanatory model suggests that during this tactical phase, visual perception is primarily focused on identifying the future empty (!) spaces that the pointer needs to traverse smoothly in one continuous line to reach the icon. When we actually execute the action, we guide the pointer along that perceived action trajectory shape until the icon is reached. This is the essential process that our perception processes must accompany within the primary focus, and this process has been completely overlooked by science until now. In subsequent articles, it will be demonstrated that guiding the pointer along the action trajectory shape yields the tau-value, to which the secondary focus is compellingly linked, and it will be explained how the cortical streams mediate this process.



In a computer game where one has to navigate through a maze, the concept of "*looking at nothing*" is illustrated in a striking manner. Within the tactical action, the role of visual perception is crucial, and the focus of that perception lies mainly on identifying free or *empty* (!) spaces that promise a (future) continuous open passage for the pointer (the game element controlled by the player).

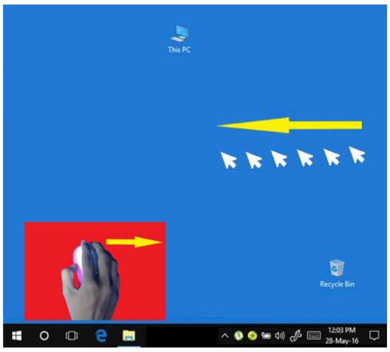
A player is actively scanning the maze in advance to discover potential passages and determine the route. In a maze, the existing walls present a challenge because they offer no passage and, therefore, do not promise a continuous uninterrupted action trajectory shape. Avoiding these walls and focusing on the free spaces are essential aspects of navigating through the maze and successfully completing the game. In the case of a maze game, players utilize their visual perception to locate the *free* (!) passages and build mental maps of the maze to plan their movements.



On the desktop (left), two icons are displayed, and your pointer is at a random location. If you choose to open one of the icons, you must move the pointer to the icon. Within this process the explanatory model provides the scientific evidence that you first construct a perceptual image of a latent action trajectory shape between the pointer and the relevant icon. In which it additionally demonstrates that this maybe could encompass a perceptual image of a very nice straight line, but that you will never be able to execute that action trajectory shape straight. Due to the fact that you can only execute the action trajectory shape c.q. the movement of the pointer with the perception of an entirely different autonomous movement, the pointer can and will deviate from that original 'perfect' perceptual image at every point P. Therefore, this process must be mediated by the double and reciprocal process of the cortical streams, representing the body's brilliant ecological answer to execute every motor action in the most parsimonious way possible. The ventral stream and dorsal stream continuously interact with each other to correct the inevitable deviations, but this interaction requires a small reaction time that needs to be counted in tenths of a second. As a result, we (conform Bernstein) will never be capable to execute one motor action identically, and the pointer will always follow a continually different zigzag pattern before reaching the icon. The image on the right shows only a highly simplified representation of this actual phenomenon but can be best characterized in this concise manner.

<u>The secondary focus in relationship to the movement of a pointer to an icon involves the perception of a movement inside the body</u>

When one starts to realize that the primary focus solely concerns the movements of the pointer, it implicitly becomes evident that the pointer itself isn't capable to move at all. This analogy is strikingly similar to a ball during a free throw in basketball or various inanimate objects like tennis rackets, cricket bats, spoons, knives, bottles, pens and more, which clearly never move on their own. But even when we grasp a coffee cup 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 a computer action, we can only haptically perceive the (outer surface of the) mouse with the (outer surface of our) fingertips, and we can only proprioceptively[2] sense how movements within our body influence the haptic contact with the mouse.



Images: It should be evident that we can only move the pointer with a completely autonomous computer program. The movements of the mouse are, in essence, unrelated to the movements of the pointer. The mouse is a physical input device controlled by our hands, sending signals to the computer. The pointer, a graphical representation, moves in response to these signals based on computer software. They are distinct entities, and the mouse's physical movements do not directly translate to

[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 using the computer mouse effectively. The overall mouse displacement technique is influenced by our awareness of limb position, allowing us to control the general movement of the mouse across the screen. On the other hand, the specific location where movement perception is transferred to the mouse movement is essential for precise actions, such as clicking on icons or buttons.

the exact movements of the pointer on the screen. The computer's software[3] mediates the relationship between them, ensuring the recognizable translation of mouse movements to the appropriate pointer movements on the display. That they indeed are separate entities that require two distinct focus points can be demonstrated quite easily. If you would change the mouse settings[4] of a computer to be reversed or inverted (left image). This experience would vividly illustrate how we indisputably need to use two focal points to move a pointer. A standard example that also highlights this is a modification to a bicycle[5] where the steering movements are mirrored (middle and right images). In such cases, participants even struggle to ride straight ahead for a meter.

The purpose of the task within a motoric action 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. 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). That 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 movement trajectory on the outside of your body while also focusing on movements on the inside of your body. Which exactly includes this debated computer task as well.
Another way to encounter the distinct autonomous foci is through actions that demand heightened awareness of both. For instance, when attempting to ride a reverse bicycle or setting your mouse to operate in a reverse (mirror image) mode, you will undoubtedly find yourself focusing intently on the secondary aspect. This heightened attention is essential for successfully navigating these unconventional tasks, as the primary focus takes a backseat in these situations. By engaging in such activities, you can experience the challenge of consciously managing and perceiving both primary and secondary focuses simultaneously.

[3] Similar to how you cannot have a direct conversation with someone on the other side of the world during a phone call.
[4] https://www.youtube.com/watch?v=1gunoDKWw3Q
[5] https://www.youtube.com/watch?v=MFzDaBzBlL0