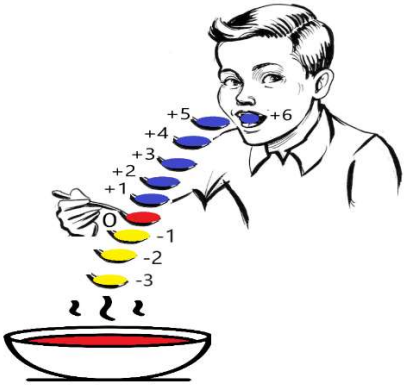
Eating requires a compelling collaboration between an internal and an external focus - Solely the positions of the spoon(-bowl) towards the food and towards the mouth determine the external focus



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

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Introduction:

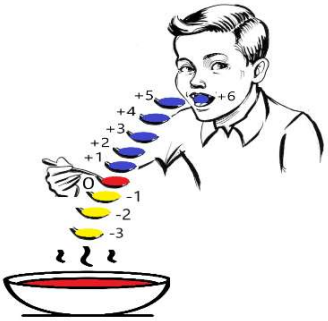
Traditionally, science has assumed that one motor action encompasses one focus. This assumption has seemingly been so logical that it has never been questioned. However, this has led to the absence of a plausible explanation for the functional perception processes underlying the execution of all motor 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 imaginable motor action. Beyond any reasonable doubt 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 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. 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.

This article focuses entirely on the motor action of eating. The article convincingly demonstrates that only the spoon-(bowl) c.q. the movements of the spoon-(bowl), similar to a marble in a marble run, executes this action trajectory shape. Solely this movement encompasses the essence of the task. For this reason, primary attention should be directed towards the external movement of the spoon-(bowl). The bowl of the spoon can only be moved with completely different movements within the body that only reach the outside of the spoon. The attention required for this should serve the main goal and is therefore referred to as secondary (internal) focus. Furthermore, the explanation shows that all conceivable motor actions are based on these same two foci. Due to this universal nature, 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 the movement of the spoon-(bowl) encompasses the perception of movement outside the body

The explanatory model of all motoric movement actions, as demonstrated in eating, shows that only the spoon-(bowl), or the movements of the spoon-(bowl), 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 tacti-

cal consideration first aims to create a perceptual image of a latent action trajectory shape over which, in this case, the spoon-(bowl) or the movements of the spoon-(bowl) promises to become successful, and only then proceeds to actual action.



Images: Eating involves solely two main objectives: 1. reaching food and 2. subsequently getting the food into our mouth. The essence of this task is, therefore, executed solely by the autonomous movements of the spoon-(bowl), making it the primary process we need to observe. The spoon-(bowl) follows an action trajectory shape similar to how a marble completes a marble run. Within every conceivable motor action, the actual position of the marble or the action object will always mark the precise division between the manifest and latent parts of the action trajectory. In the middle illustration, the current position of the spoon with tomato soup is at position P(0) and precisely represents this dichotomy. The previously passed positions P(-3), P(-2), and P(-1) are marked in yellow. The latent positions P (+1) to P (+6) yet to be traversed are indicated in blue.

When we factually start the action, we are going to fill in the perceptual image of the action trajectory using the spoon-(bowl). So within the primary focus, this is the essential process that our perceptual systems 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 spoon-(bowl) 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.

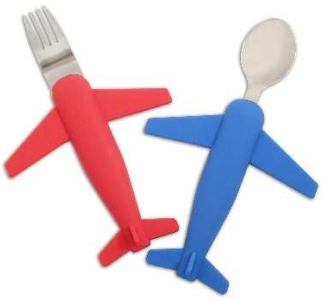
Images: The explanatory model demonstrates that within every imaginable motor action, an autonomous internal focus must be directed towards an autonomous external focus. This insight reveals the scientific evidence that we can never execute any action trajectory shape identically, as it involves the stacking of observations 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 eating. Within which the explanatory model unequivocally emphasizes that it has never been the objective to achieve such perfect uniformity. Creating a similar form is far more efficient and ef-

fective, to the extent that a resource-conscious (parsimonious) organism would have never evolved otherwise.

Maybe we do construct perfect straight action trajectories when we create perceptual images of the future positions of the spoon-(bowl) while eating. However, due to the fact that you can only execute the movement of the spoon-(bowl) with the perception of an entirely different autonomous movement, the spoon-(bowl) 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 spoon-(bowl) will always follow a different zigzag pattern while eating. Either to the food or to the mouth.

The secondary focus in relationship to the movement of the spoon-(bowl) encompasses the perception of movement inside the body

When one starts to realize that the primary focus solely concerns the movements of the spoon-(bowl), it implicitly becomes evident that the spoon 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 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 with our hand, the explanatory model demonstrates that the hand, and consequently the relevant fingertips, must also be considered as lifeless action objects.


Images: A spoon is merely a tool used for a particular type of eating. We can also eat with our fingers, sticks, and so on. And even if we eat directly with our fingers it doesn't matter. The stacking of two autonomous foci will always exhibit the same universal cooperation. Although you could remark that when using a spoon, sticks there might be a longer distance between the secondary and primary focus, which could potentially result in a greater degree of deviations.

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

[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

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 eating with a spoon, we can only haptically perceive the (outer surface of the) spoon 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 spoon.
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 like within writing. 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 movement trajectory on the outside of your body while also focusing on movements on the inside of your body. Which exactly includes eating tasks 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 using the pen effectively. The overall pen displacement technique is influenced by our awareness of limb position, allowing us to control the general movement of the pen on a piece of paper. On the other hand, where perception is specifically transferred to the exact movement of the tip of the pen is essential for precise writing actions.