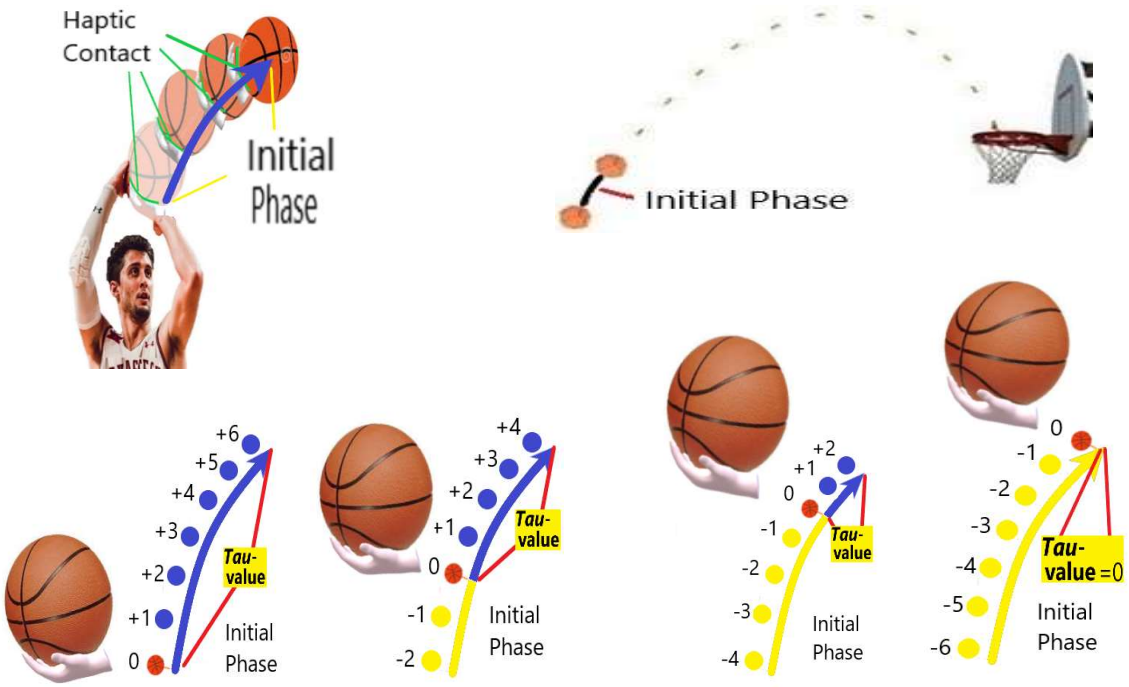
# Within the free throw the essence of the task is solely carried out by the movements of the basket-ball; Within the primary focus the movement of the basketball produces the *tau*-value




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

N.J. Mol

## Introduction

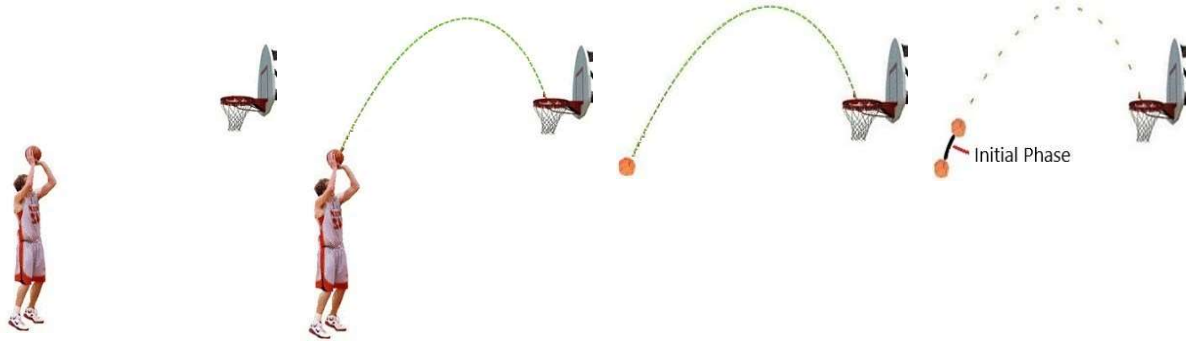
Traditionally, science has assumed that one motor action corresponds to one focus. This assumption was likely so intuitive that it was never challenged. However, this has led to the situation where, even after more than 100 years of movement sciences, a plausible explanation for the underlying functional perception processes guiding the execution of all motor actions had never been found.
In contrast, in 2016, an explanatory model emerged that has the capability to identify all functional perception processes within any imaginable motor action in a universal way. It demonstrates, beyond any reasonable doubt, that each motor action can only be executed through a mandatory coupling of two foci: an internal (secondary) focus that must always be directed towards an external (primary) focus. In which it should be explicitly noted that these two foci represent entities that fundamentally differ from current scientific terminology.
Regarding the external (primary) focus, it can be observed that science has so far missed truly everything. Therefore, it will now be comprehensively discussed within a wide spectrum of motor actions, and this publication now reveals all aspects of the primary focus within the free throw in basketball.
Within this publication, it is explained that one can't factually throw a ball into a basket. You can only construct a perceptual image of a whole (successful) latent outgoing ball trajectory shape, limited to solely that part of the ball's trajectory when actual haptic contact occurs between the ball and the hand. The explanatory model defines this as the initial phase. In this epistle it will be explained that the external (primary) focus encompasses the perception of the phase in which there is actual haptic contact between the hand and the ball, and although this seems like a very brief time frame, it will become clear that the movement of the basketball solely within this initial phase produces the essential *tau*-value. Which must be linked to the internal (secondary) focus through a strict *tau*-coupling process.

## Solely the movements of the basketball encompass the essence of the task c.q. the external (primary) focus

The category of motor actions discussed by the explanatory model pertains the conscious actions where it is assumed that there is always an initial formulation of an egocentric intent (an egocentric formulated will). So before picking up a coffee cup, for instance, there is always the desire to do so. The explanatory model of all motoric movement actions recognizes this as an undisputed factual aspect but adds a caveat. The egocentrically formulated intent does not, for example, concern picking up

the coffee cup itself. The explanatory model reveals that this is factually incorrect and that we can only move our fingertips toward the coffee cup. Therefore, the movement of the fingertips toward the coffee cup constitutes the essence of that action. In the present action, we might indeed be very eager to satisfy our hunger, but the egocentrically formulated goal pertains solely to moving the spoon to the plate and/or to the mouth. Only that aspect thus determines the essence of the task, and therefore, only that aspect should be regarded as the external (primary) focus.
So within the free throw in basketball we obviously aim for a high score but the egocentrically formulated goal pertains solely to guiding the ball through the initial phase correctly. It is factually impossible to execute more than that and, therefore, only this element should be considered as the external (primary) focus.

The tactical movement action (TMA) within the free throw in basketball




Images: First, we establish the egocentric intent to accurately guide a basketball into a hoop. Then, from the current position of the ball, we construct a perceptual image of a complete latent outgoing ball trajectory shape (OBT) between the ball and the hoop, which might be successful, and condense this whole shape to solely an initial phase, as this is where we can actually influence the ball's path. This occurs as part of a tactical action in which two important goals are considered. Firstly, it must lead to a successful action, and secondly, ecologically evolved organisms aim to perform actions as parsimonious as possible. The explanatory model of the motoric movement action provides scientific evidence[1] that, while we do register possible obstacles in the environment, visual perception is primarily focused on creating an action trajectory shape that forms a completely interconnected line of positions P for the basketball. Although it may appear that without obstacles, we wouldn't construct a perceptual image of a latent action trajectory, because there seemingly are no obstacles, this is entirely incorrect. We primarily perceive the positions P where there is nothing to see c.q. which don't contain any obstructing matter. This, in essence, defines the tactical action, even when there seemingly are no physical obstacles on the future (action) path of the ball.

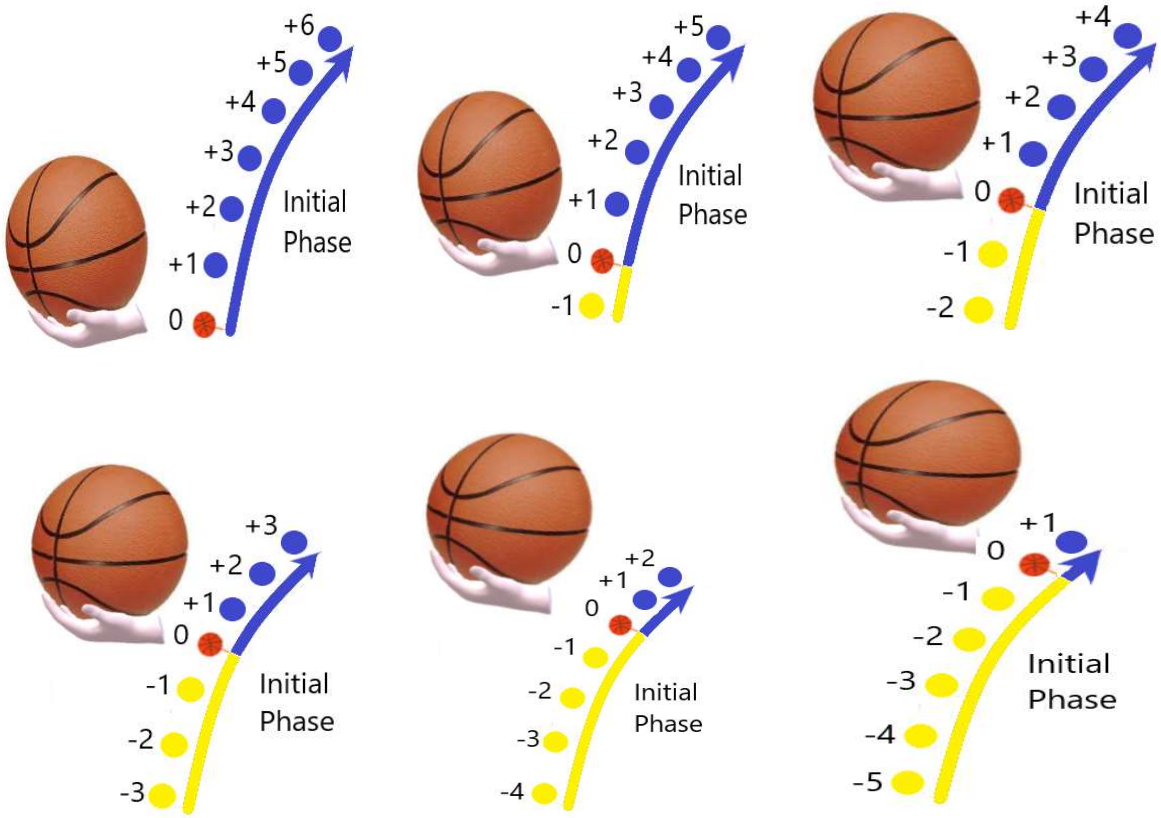
The explanatory model of the motoric movement action demonstrates that after formulating an egocentric goal, we always engage in a tactical consideration, prior to any execution, to determine how we can bring the action object to the goal location within successive positions P. In the context of the discussed action, we always create a perceptual image of a latent action trajectory shape, allowing the ball to be moved successfully toward the basket.

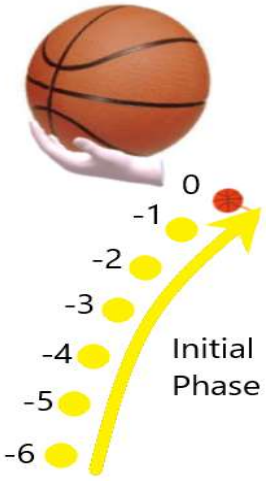
[1] https://www.researchgate.net/publication/371912704_The_scientific_proof_that_we_primarily_start_with_the_construction_of_a_perceptual_image_of_an_outgoing_ball_trajectory_shape_prior_to_the_factual_execution_-_The_complete_explanation_of_the_free_thr. Additionally the scientific evidence has been unequivocally provided for all grasping actions and all throwing actions, and can be easily universally extrapolated to any conceivable action. N.J. Mol; *Grasping encompasses two consecutive autonomous phases – The scientific proof that we tactically construct an action trajectory shape prior to the factual execution of that exact same action trajectory shape.*

Images: It is not straightforward to present an animation that accurately represents the latent action trajectory shape being constructed. The image on the left very clearly displays the shape of the trajectory, in which all contiguous points P are distinctly weighed. However, it does not illustrate that within the construction of the trajectory shape, all dimensions of the basketball are also precisely incorporated, as shown in the image on the right. The perceptual image we pre-construct of the trajectory might possibly contain a hybrid blend of these two animations.

The factual movement action (FMA) within the free throw in basketball

After determining a perceptual image of the initial phase of the latent outgoing ball trajectory shape, we proceed to actually carry out the action. This process effectively starts with bridging the gap from the current position of the basketball P(0) to the next position P(+1) within the action trajectory. Although our ultimate intention of course is to reach the end of the initial phase to actually release the basketball, the explanatory model clearly illustrates that during this phase, our perception processes are solely concerned with bridging the empty space between the beginning and the end of that initial phase. Which at a micro-level shows, that essentially only the positions P(-1), P(0), and P(+1) matter to us during this bridging process.



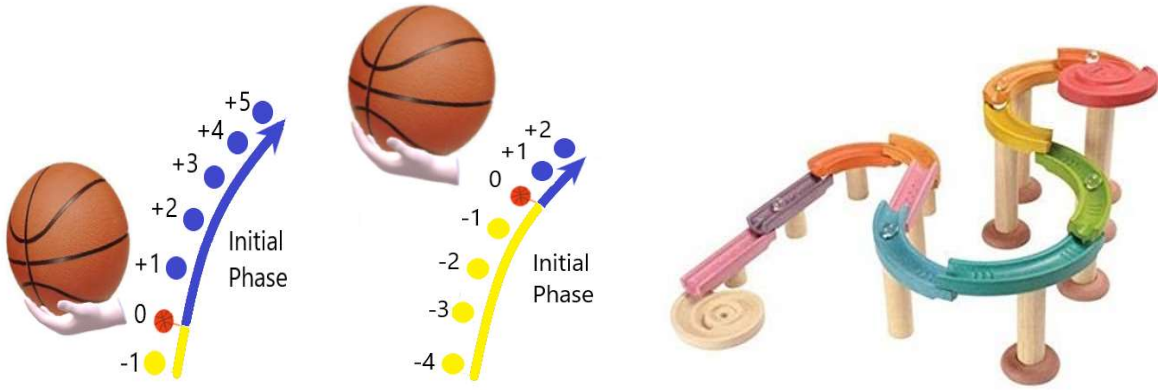



Images: In an animation, the progression within the initial phase can be depicted as follows. Within any conceivable action, the action object can successfully execute the action only by first occupying the next position P(+1) within the action trajectory. The current position P(0) then shifts one step forward, and a manifest position P(-1) is added. This process repeats with every new position P(0) until the end of the action trajectory is reached. To comprehend the perception processes at the most fundamental level it is of the utmost importance that you start to understand that the latent part of the initial phase will factually need to sprout out of the already manifest positions P(-x).

The perception-action coupling within the free throw in basketball

With the preceding argumentation, the explanatory model of the motoric movement action now provides a comprehensive and universal explanation of how perception is linked to the action within any conceivable task. The animations in the previous section illustrate that the action object maintains a fixed relationship with the perceptual image of the action trajectory shape. This becomes easier to comprehend when envisioning a marble in a marble run. In this analogy, you will become much more aware that the perception-action coupling is a unified phenomenon where only a single change occurs every ongoing time span. Within the marble run it becomes quite visible that during the actual execution, each position P(0) serves as the precise separation between all already manifested positions P(-x) and the latent positions P(+x) yet to be traversed.
Through this explanation of the perception-action coupling, the explanatory model can precisely demonstrate how organisms must have evolved within an ecological framework. However, delving into this subject exceeds the scope of this publication. Instead, several crucial points will be highlighted concerning the functional perceptual processes within this motor action.
It's imperative to recognize that while the ultimate goal is to reach the end of the initial phase within the free throw, during the execution of this action, we are solely engaged in bridging the basketball through empty space where seemingly nothing is happening. It can be observed within any conceivable action that we spend relatively more time bridging this nothingness than in actual observable activity. The explanatory model, however, unequivocally shows that not only the end goal matters, but all positions P between the beginning and the end of the initial phase are equally significant.
Additionally, it must be remarked that the action of the ball at P(0) can be perceived distinctly, yet no fixed unit of time can be attributed to it. Each unit of time can be divided into a thousand smaller units, and these units can be further subdivided, leading the explanatory model to argue that the action at P(0) fundamentally takes such a brief time span that it only gains significance in relationship to perceptions of the adjacent time frames. In other words, perceiving the current position of the basketball solely gains meaning through the adjacent future "actual" positions P(+x) and the adjacent manifest

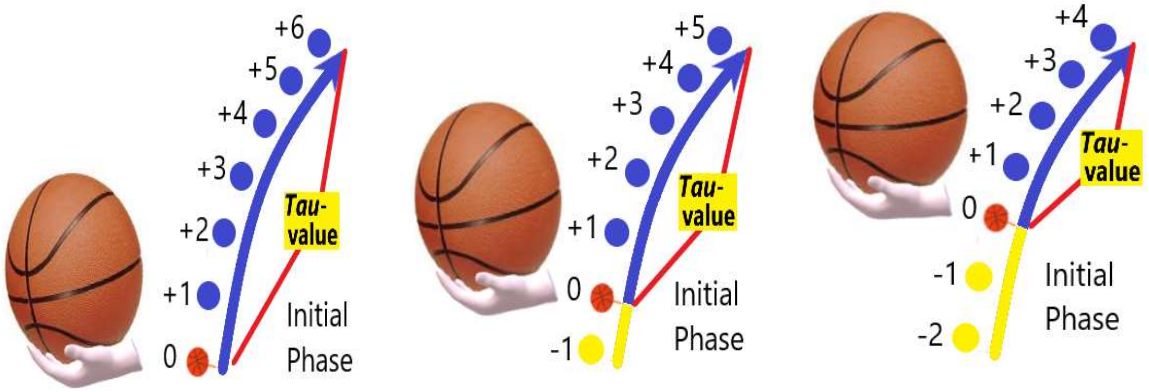
"actual" positions P(-x) of the ball. Within which the overarching idea is to emphasize that perceptions within any conceivable action mainly pertain to one single phenomenon wherein the perception of the action also compels a perceptual image, but primarily that they are absolutely interdependent.



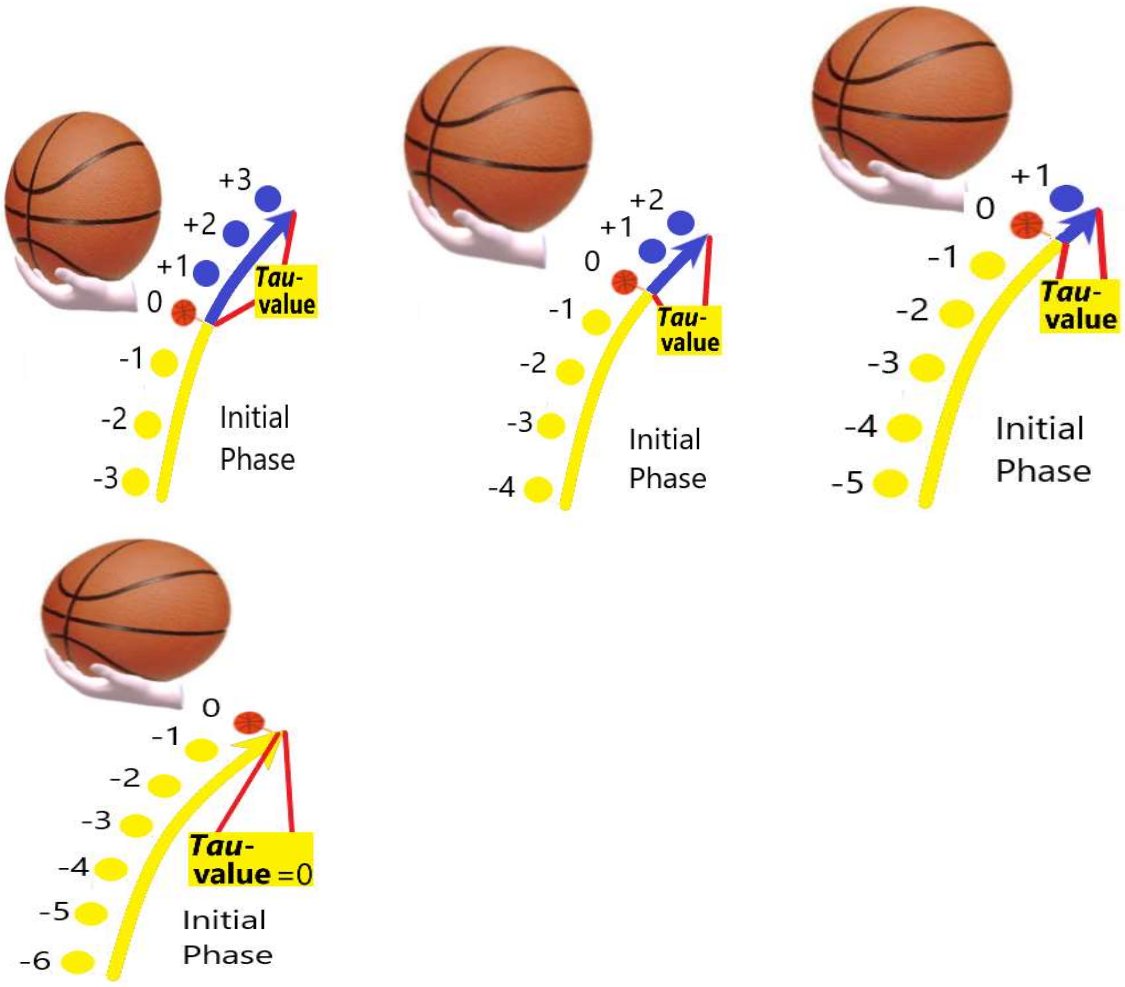

Images: Within many motoric actions the action trajectory shape will not become visible, making it challenging to depict with animations. Conversely, the marble within the marble run, is capable to vividly illustrate this concept. It clearly showcases one single phenomenon wherein the marble, at each position P, delineates the precise separation between all already manifested positions P(-x) and all latent positions P(+x). Additionally, it exemplifies one of the essences of the coupling. If we couldn't perceive the marble run, the movements of the marble would lack essential context, and conversely, without the marble, we would be completely unable to perceive any coupling as well. There is a compelling interdependent relationship, and without that coupling, we would never, under any circumstances, be able to execute any motoric movement action.

The *tau*-value within the free throw in basketball

The explanatory model of the motoric movement action demonstrates with the aforementioned perception-action coupling that the perception of each position of the basketball c.q. the action object within the initial phase is equally important. However, as the ball approaches the end of the initial phase of the outgoing ball trajectory shape, the task c.q. the egocentrically formulated goal starts to become finalized. Within any imaginable motor action, the action object will universally traverse the action trajectory shape until there are no latent positions P left. Within his *tau*-coupling theory, D.N. Lee referred to this phenomenon as the closing of the gap c.q. as the *tau*-value approaching to zero.



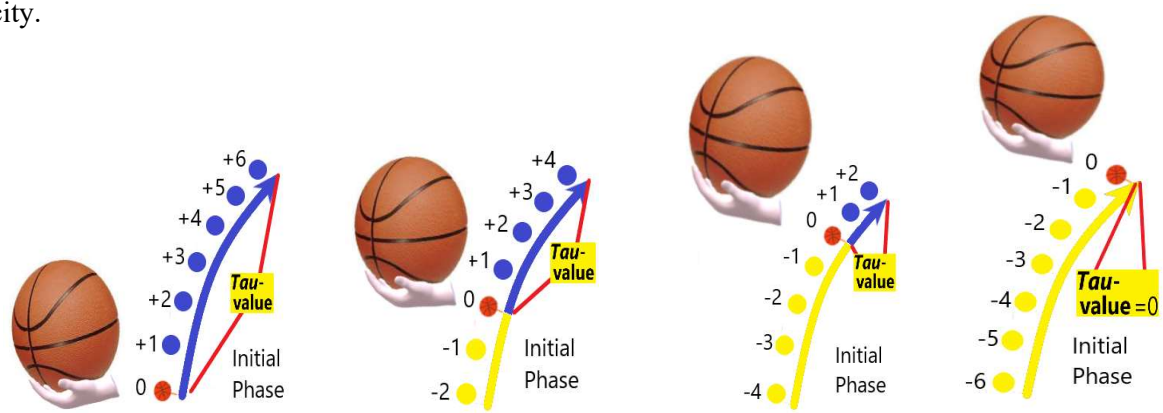
Within the free throw the essence of the task is solely carried out by the movements of the basketball: Within the primary focus the movement of the basketball produces the *t*




Images: Within the perception-action coupling, the basketball will traverse all latent positions P that are tactically predetermined within a perceptual image of the initial phase of the whole outgoing ball trajectory shape. With each successive position P of the ball, the *tau*-value will decrease, until it eventually approaches zero c.q. becomes zero.

The perception of the *tau*-value within the free throw in basketball

Observing the *tau*-value within the external (primary) focus is an essential process because, within a strict *tau*-coupling, it must establish a compelling relationship with the internal (secondary) focus to make an action successful. When it is perceived that the basketball is approaching the end of the initial phase, the perception within the internal focus must ensure that the bodily movements reaching up to the ball are adjusted in such a way that the ball is released precisely on time and with the correct velocity.



Images: The *tau*-value can be perceived in two autonomous ways. You can either observe how the yellow manifest action trajectory shape takes over the blue line or at the most basal level you could solely observe with what speed the blue line, representing the still latent action trajectory shape, is disappearing. Within which you factually solely observe how the latent (blue) gap is closing.

Perceiving the *tau*-value approaching to zero can be observed in two autonomous ways. The first way involves filling in the perceptual representation of the entire latent action trajectory shape with the manifest positions P of the basketball. In animations, this should be depicted as the yellow line taking over or filling in the blue line. The other way involves a much more fundamental way of perceiving the *tau*-value. In contrast to the first way, this is solely based on the disappearance of the latent positions P from the perceptual representation of the entire latent action trajectory shape. Which means that you solely observe with what speed the blue line c.q. the gap disappears.