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The sense of movement in horse-riding

- empirical analysis of a neglected phenomenon in the learning process

1. The problem

In many textbooks, the sense of movement is represented as a key variable in successful riding. Accordingly, great importance is attached to the development of a good sense of movement for optimizing processes. So far, however, it is largely unclear *what* is meant by the sense of movement and *how* it could be systematically controlled and used in communication procedures. For this reason, the following article refers to a model of phenomenal representation of motor tasks in sports, and it is within the framework of this model that the sense of movement is located prognostically. Finally, the first empirical evidence for the reconstruction of the sense of movement when riding will be presented and then assessed.

2. Sense of movement as an autotelic movement quality

Motor tasks in sport are associated with characteristic experiences. These experiences can be assigned to two dimensions of individually experienced movement quality (Prohl, 2002). The telic dimension is focused on the evaluation of success on completion of the action, the autotelic dimension on the immediate experience of executing the action. The two dimensions of movement quality are systematically linked to the structure of the action. Underlying this structure are phenomenally represented nodes, by means of which a specific action can be controlled or corrected (Gröben, 2001).

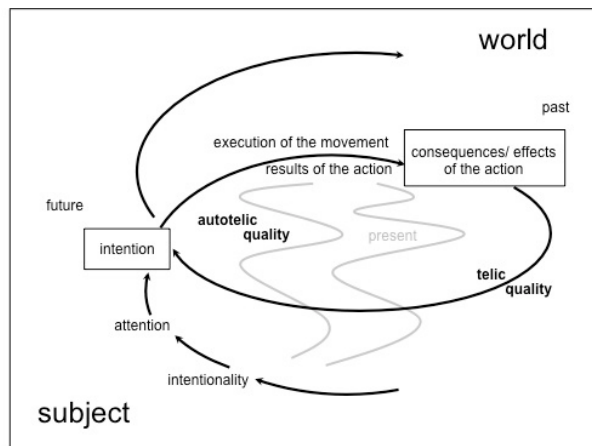


Figure 1: Model of the motor action after Prohl (2002). When completing the action, the feelings of movement arising from the autotelic movement quality lead either to a successful execution of the movement, or, if the goal discrepancies are too large, to awareness which creates a new intention to complete the action (continued in Figure 2).

On the basis of the telic and autotelic movement quality, a discrepancy between intention and ability may be experienced, which leads to a modification of the structure of the action, in order, ideally, to maintain the execution of the action. The autotelic quality here has the function of stabilizing the action via the feelings arising in the immediate presence of movement, or - should a problem arise - of generating starting points for an adjustment and correction of the action. The telic and the autotelic quality are thus factors of a successful movement and of the learning process, whereby the autotelic quality describes the functional effect of the sense of movement.

3. Sense of movement in the learning process

In the initial stages of learning a motor task, there is a strong alignment to the telic movement quality. The achievement of the intended objective acts as a standard for the expected impact in the environment (Prinz, 1998). However, during the learning process, the target is achieved more confidently and with less conscious effort. The presence of movement is more immediate and the autotelic movement quality can now act more strongly as a standard. Focusing on the sense of movement makes a more rapid adjustment of the structure of the action possible during the execution of the movement. As a result, the execution of the movement is improved and, ultimately, also the telic movement quality. Therefore, perception can be aligned more closely to autotelic movement quality, because confident action in the present of the movement has "gained" even more time. The sense of movement as a reference point for the motor task (= the telic of the autotelic), a subtle and early adjustment, is a feature of expert riders, who perform their movement "by feel", so to speak, in an uninterrupted present (flow).

4. Investigation approach

In a pilot study, five interviews were conducted with highly successful riders (mostly A and B squads) in order to collect their descriptions of the phenomenal representations and the associated feelings of movement. The one-hour (guideline-based) interviews with these experts in their field focused on four subject areas (seat, awareness, riding situations, feeling). The following criteria were applied in the selection of specific situations:

- *ordinariness*: it should be a situation which the professionals deal with every day;
- *complexity*: it should be a situation that can only be mastered with a multi-dimensional motor task;
- *proneness to crisis*: it should be a situation which is characterized structurally by a certain potential for crisis.

Accordingly, the selection made was riding in a figure of eight at a trot, a trot-gallop transition and a situation where the horse is startled in a show setting. As an evaluation method for the interviews, Mayring's qualitative content analysis (2010) was used. The deductive system of categories was generated from the action model quoted above (Prohl, 2002).

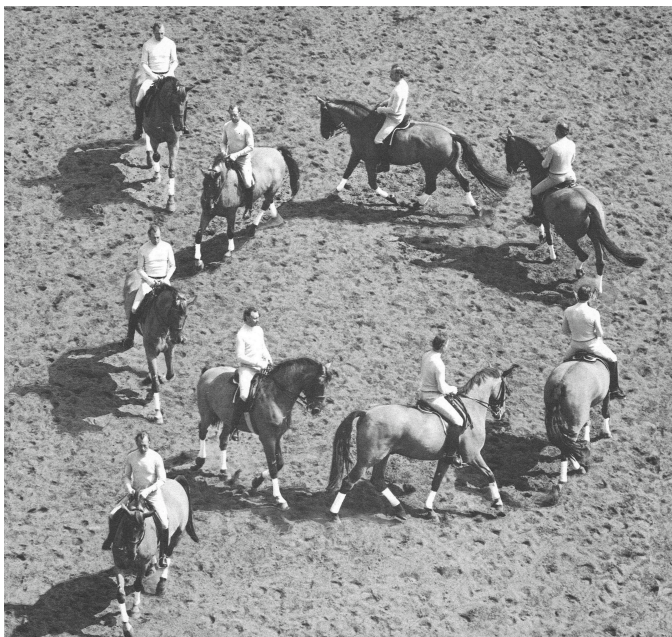


Figure 2: Riding a volte (Boldt, 1997, p 153). When executing the movement, the rider's sense of consistency allows him to adjust his own movements variably to the movements of the horse, without constantly having to set new goals. In relation to the riding task illustrated here: given the intention of performing a volte, a possible drift of the horse may be sensed through the buttocks, outer leg and rein and may be corrected intuitively, for example, by a shift in weight, or by greater influence of the outer leg.

5. Results

- 1) When looking at the results, it should first be noted that professional riders do not primarily experience the motor task of riding in their own bodies, but instead predominantly through the horse and its movements during execution of the task.
- 2) Professional riders use their own bodies both as an organ of perception and as an instrument for carrying out the motor task of riding. The rider's own body, considered phenomenologically, is understood as a physical medium and used to create a subtle connection between rider and horse. Thus, this leads to a double function:
 - a) on the one hand, the body is seen as part of a highly sensitive receptor for the horse's movements,
 - b) on the other hand, the body allows the necessary movements, which, rather like a precision tool, align directly with the desired objective without the need for conscious control.
- 3) The success of a motor task is measured during execution based on the horse's sequence of movements. The professionals give absolute priority to the reactions of the horse in the evaluation of the motor task of riding.
- 4) The professionals consider the sense of movement to be a key function when riding. They believe that successful communication between horse and rider will only be possible when the rider is able to integrate this connection between sensing and effecting into his actions and to make this the starting point of his actions.

6. Summary and conclusions

The results presented here describe the structure of the riding action of experts. Key assumptions have been confirmed. However, it may be assumed that novices achieve their movements quite differently. Accurate knowledge of the structures of the action in less advanced stages of learning are, however, very important for effective riding lessons. In order to establish an estimate of the dynamics of change in the learning process, a longitudinal study would be useful. Since the learning path from novice to expert in equestrian sports lasts for several years, the follow-up study is conceived as an extreme group comparison, where various skill levels are captured and analyzed. The subjects (n = 30) will perform a short riding task specially designed for this purpose, which will be recorded videographically. In addition to the qualitative data on phenomenal representations (stimulated recall), the evaluation will also quantitatively analyze the performance of the subjects (two-fold expert ratings).

7. References

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