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### On the Informativeness of Instructive Pictures

This contribution explores the epistemic function of pictorial representations, which depict practices, especially “Pictorial Instructions” {GOMBRICH PI} or “Directive Pictures” {LOPES DP} respectively. The visualisation of practices is of course itself a type of practise, which is characterised by epistemic as well as normative aspects: If a picture is used to inform about the performance of an action, it might be descriptive and prescriptive at the same time, since it shows what the practise looks like - and, moreover, what the practice should look like. Directive or instructive pictures feature a prescriptive aspect, which serve “the function of guiding action” (Lopes DP 191), and at the same time a descriptive aspect, which “changes us by changing our informational state” (LOPES DP 195). But to call the representational content of a picture “descriptive” seems at odds with the phenomenal peculiarities that characterise pictorial representations {BROGAARD PUL}. Pictorial instructions illustrate this reservation since they are regularly favoured over linguistic representations: They are used to inform about actions precisely if linguistic descriptions are too long or too hard to understand, simply unavailable or outright impossible. The first aim is to defend this assumption against Floridi's claim that for a picture to serve an epistemic function, it needs to be translated (or translatable) into propositional formats {FLORIDI PoI 187}. The second aim is to explicate the kind of informativeness that pictures can instantiate, when they guide actions in everyday behaviour and special disciplines like sports or scientific endeavours.

Like other depictive pictures, instructive pictures draw on the appearances of actions and their parts, as well as the internal resemblance we try to anticipate in our imitation. But the instructions differ from the mere informing about some appearance {NOË VoP}. As Lopes states {LOPES DP}, action-instructing pictures fall within the scope of signs that Millikan labelled “pushmi-pullyu-representations” {MILLIKAN

PPR}. Such signs do not merely show how some action looks like, but how it should look like. Their informativeness in terms of accuracy amounts to the looks of a prototypical action of that type. They are informative if the depiction shows to the interpreter how the bodily implementation of an action is to be performed. One can find a range of pictorially mediated epistemic support on the performance of actions, from the 'exploded assembly drawing' to sequences of depicted body postures. When learning how to play a guitar, for example, pictures can provide helpful insights as to how one should place one's fingers without cramping - especially if it is shown from the first person perspective like in the example above. One difficulty in learning such unnatural movements arises from the lack of public concepts we can use to guide ourselves or others. The advice to play a tone, while 'shaping one's hand like a claw' brings some concept into play. But this does not inform us about exactly how our fingers are supposed to move.



rev. 1.2015 <http://www.1stpersonguitar.com/Learn-Guitar-Chords.html>

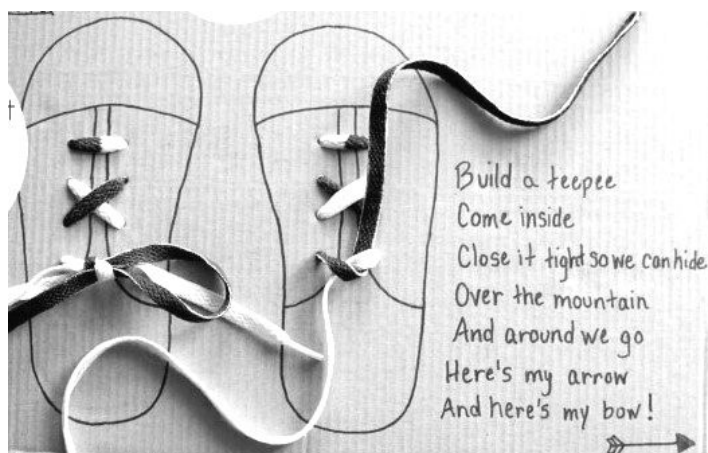
The sequential pictorial instruction shown on the right intends to make accessible the looks of a basic leverage technique from Aikido. The sequential type is informative for those who can use the depicted bodies as a model for their own. Here the didactic challenge was to select the perspective and the relevant qualities that allow for the interpreter to relate the depicted to her own body. Sequential pictures demand an imaginative effort on the side of the interpreter, since the action is not shown in its totality, but in selected freeze images. Such instructions



feature a focus on the important aspects of a continuous movement, whereas a video could show the whole movement, but without the didactic emphasis. If the actions results in a product, these signs show how the product should look like. This is clearly the case in the necktie example. Here it might be less important whether the bodily movements that compose the action look exactly as shown. But if the appearance of the resulting knot does not resemble the prototypical look mediated by the picture, the action has failed. Accordingly, knowing how to knot the Half-Windsor consists in the performance of an apt sequence of bodily movements with the resulting configuration of the tie looking as shown.



rev. 4.2014 <http://www.artofmanliness.com/2012/08/10/how-to-tie-a-half-windsor-knot/>



rev. 5.2014 <http://www.onecraftyplace.com/2012/10/16/teach-your-child-to-tie-shoelaces/>

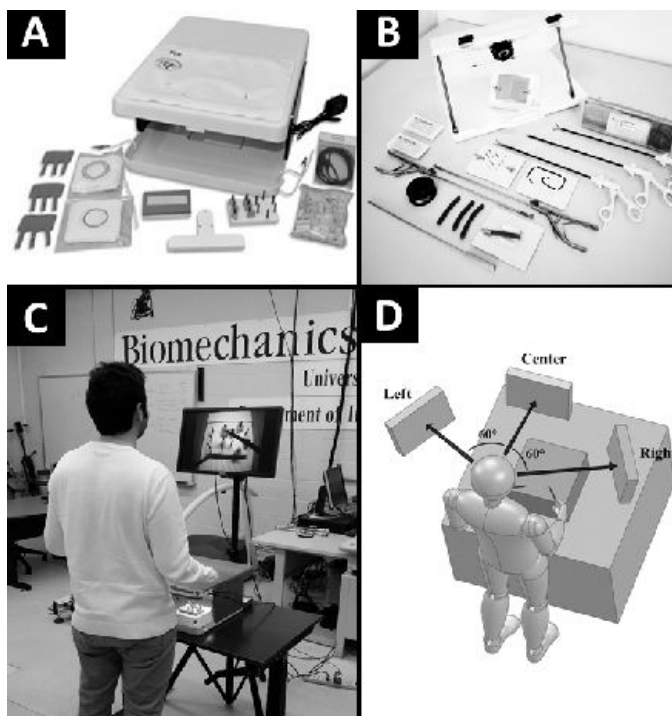
The hybrid tutorial on the left, from which children may learn how to tie their shoes, nicely illustrates the way how visual imagination {MCGINN MS} can be provided by linguistic means. Depicted is a pair of shoes, while some oversized ribbons model the laces, with which the learner can practice. By

demanding to “build a teepee”, the didactic poem uses linguistic means {DAVIDSON WMM} to provide the learner with a visual image, which provides a structural model for a teepee-shape created with laces. This means that not any tent- or teepee-concept will do. When we find this adventurous instruction informative, we do so because we know how teepees typically look like. In examples like this, we speak figuratively in a literal sense {GUTTENPLAN OoM}, to the effect that concepts facilitate imaginations, which allow to guide the sequences of an action with recourse

to appearances {ORLANDI TIE}. Knowing how to tie one's shoes here is expressed linguistically, but the interpreter operates on the phenomenal appearances. Apart from that, the rhyme is an awfully inadequate - because uninformative - description of tying one's shoes.

The depiction of actions - be it the showing of bodily movements, the results of these movements, or both - has its place in scientific practice, too. Firstly, scientists might use pictorial means to inform about their experimental setup or even design.

Moreover, there are scientific inquiries regarding the different ways of showing or instructing scientific practices {LEHMANN SM}. For example, it is part of some scientific practices to manipulate microscopic structures with the help of imaging techniques. Inquiries into those imaging practices show that the performance varies with the positioning of the screen. Unsurprisingly, information about the details of the corresponding experimental design is given by pictorial means.



rev. 3.2018 <https://www.omicsonline.org/open-access/effect-of-visual-display-location-on-human-performance-in-simulated-laparoscopic-tasks-2165-7556.1000134.pdf>

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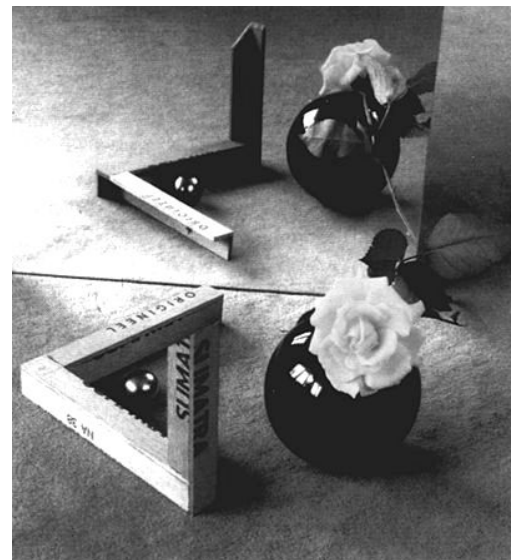
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rev. 1.2015 <http://im-possible.info/english/articles/real/>