

# Indexicality of knowledge-how

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## Introduction

If someone is skilled at something, it is usually said that they *know* how to do it.<sup>1</sup> But how should this knowledge be characterized? Depending on the answer, researchers can be divided roughly into two groups. *Intellectualists* answer that to know how to do something is to know a proposition and claim that knowledge-how is a species of knowledge-that.<sup>2</sup> *Anti-intellectualists*, by contrast, reject this view and contend that there is a fundamental distinction between both kinds of knowledge. The champion of the latter camp is Ryle (1949/2000). He argues that knowledge-how consists in an ability, which is a complex of dispositions. Such an anti-intellectualistic view has dominated this discussion for several decades. Recently, however, the intellectualistic view has been revived. This movement was initiated, among others, by Stanley (2001, 2011). According to him, knowledge-how is nothing but propositional knowledge: to know how to do something is, roughly, to know that a certain way *w* is the way to do it. Fridland (2012, 2013, 2014) takes the issue with this view. According to her, knowledge-how cannot be fully reduced to propositional knowledge. To show that, she stresses the context-sensitive aspect of skill instantiation, namely for a skill to be successfully instantiated, it must be carefully adjusted and attuned to the very particular features of the situation in which it is executed. Now, such an aspect of skilled performance seems to require some kind of intelligence. Fridland demonstrates, however, that, no matter how fine we individuate the proposition, such intelligence cannot be fully captured in terms of proposition. Thus, she concludes that the propositional approach of Stanley's intellectualism is bound to fail, thereby suggesting the non-propositional intelligence as an alternative approach to account for knowledge-how.

The main purpose of this paper is to reconsider the above-mentioned objections and provide further support for intellectualism. For that, I argue that the difficulty that Fridland points out is, ultimately, the difficulty with the indexicality, i.e., the difficulty that one faces if one tries to accommodate the content of indexicals in terms of proposition. To establish that, I demonstrate that, for each problem that Fridland finds in the propositional approach, there is a parallel problem in the discussion over indexicals. This identity justifies us to treat both problems alike. Now, in the latter discussion, there are some widely acknowledged approaches that enable us to deal with the respective problems. Those approaches can also be successfully applied to the problems with intellectualism. Adopting such approaches enables us to account for the context-sensitive aspect of knowledge-how within the propositional framework, thereby providing counter-arguments to Fridland's objections.

This paper is comprised of four parts. Part one provides an overview of Stanley's intellectualism.

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1 Throughout this paper, the term "skill" is used in a broad sense. For the sake of clarity, I mainly use physical skills as a paradigmatic case, but this does not mean that other kinds of skill are excluded from the following considerations

2 This kind of knowledge is traditionally characterized as a relation between a subject and a proposition. It should be noted that Stanley does not advocate any particular theory of proposition in his argument. Rather, he remains neutral on this issue because he believes that his intellectualistic view can still stand no matter how the proposition is construed (Stanley & Williamson 2001: 426.427). As we will see in the following, however, Stanley draws on the Fregean notion of mode of presentation to capture the practical aspect of knowledge-how.

Part two reviews Fridland's objections to this view. In part three, I draw parallels between the problems of the propositional approach to knowledge-how and the problems of indexicality. Having established the common root of both problems, I go on to the last section, in which I focus on some particular approaches, Evans' (1981, 1982) and Kripke's (2008), and show how they can be successfully applied to solve the problems with intellectualism.

### 1. The framework of Stanley's intellectualism

Before we turn to Stanley's (2001, 2011) intellectualistic view, let us briefly examine Ryle's (1949/2000) argument against intellectualism. The argument takes the form of a regress. Namely, Ryle objects to the intellectualistic approach to knowledge-how by showing that the approach inevitably leads to an infinite regress. To understand his argument, recall the dictum of intellectualism. As mentioned previously, intellectualists claim that knowing-how is knowing-that: if one knows how to do something, one knows that something is the case. What exactly is this latter knowledge? It is propositional knowledge, for example, knowledge of rules or maxims in accordance with which actions are to be executed. Thus, as Ryle assumes, propositional knowledge is often said to play an action-guiding role in the intellectualistic view. On this view, an action is intelligent, that is, the manifestation of knowledge-how, just in case the agent executes it, while being guided by propositional knowledge. Accordingly, Ryle assumes that, according to intellectualists, to act intelligently, "the agent must first go through the internal process of avowing to himself certain propositions about what is to be done (...) only then can he execute his performance in accordance with those dictates."<sup>3</sup> But notice that this internal process "is itself an operation the execution of which can be more or less intelligent, less or more stupid."<sup>4</sup> Therefore, the execution of the internal process in question requires that propositions be subjected to an additional internal process in accordance with which the former process should be executed. The latter process, in turn, requires another process for the same reason. But then, to act intelligently, one first needs to go through an infinite number of internal processes. This is a vicious regress. Thus, Ryle concludes, intellectualism cannot be a viable approach to knowledge-how.

However, Stanley argues that this regress argument does not undermine intellectualism because the argument is based on an unwarranted picture of what it is to be guided by propositional knowledge. The picture is this: for an action to be guided by propositional knowledge, it must be accompanied by a distinct act of contemplating and avowing the propositions in question. But according to Stanley, there is no compelling reason for assuming such a picture. Instead, his argument goes, we are entitled to assume that one can act directly on propositional knowledge without an additional act of contemplating the propositions in question. On this view, having propositional knowledge (or adopting a propositional attitude in general) is intrinsically bound to dispositions to form certain beliefs and to undertake particular actions. In short, propositional knowledge is not behaviourally inert: it has direct relevance to action.<sup>5</sup> Given this picture, one need not contemplate propositions to be guided by them.<sup>6</sup> Consequently, intellectualism thus understood does not open the

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3 Ryle (1949/2000) : 30.

4 Ibid., 31.

5 Stanley (2011) : 27.

6 Notably, Stanley does not deny the view that the skilful, i.e., intelligent action is guided by the propositional knowledge. He rejects only one certain understanding of such a view. Although I argue in favour of Stanley's intellectualism in this paper, this view itself is rejected as unacceptable in the course of argument.

door to a vicious regress. So, its proponents can hold that an action is intelligent in virtue of its being guided by propositional knowledge without falling victim to Ryle's regress argument.

Having established a way that the view might avoid the regress argument, Stanley puts forward his intellectualistic view. On his view, to know how to do something is to know, roughly, that a certain way  $w$  is the way to do that thing. Of course, such a claim needs some clarification. Above all, it is important for our purposes to clarify how such a certain way  $w$  should be specified in the proposition. Putting the details aside, Stanley takes the way in question to be the property of actions as token events.<sup>7</sup> Thus understood, 'the way to do' can be specified in various manners. One can, for example, specify it demonstratively, as when a trainee looks at her trainer performing a skill and thinks, '*that* is the way for me to perform the skill'. Suppose, further, that, after multiple attempts, the trainee has finally mastered the skill. She could then specify the way in question practically, by performing the skill herself. According to Stanley, these are two distinct manners of specifying one and the same 'way'.

As such, manners of specifying resemble Fregean senses. Indeed, we can imagine cases, analogous to Frege's Hesperus-Phosphorus example, in which the trainee is ignorant of the identity of 'the way' that she specifies in those two distinctive manners.<sup>8</sup> Thus, Stanley claims that we are entitled to count such manners as kinds of Fregean senses.<sup>9</sup> Accordingly, the two distinct manners in our example can be understood, respectively, as *a demonstrative mode* and *a practical mode* of thinking of 'the way'. Although the appeal to Fregean sense is one of the most controversial features of Stanley's intellectualism, I won't go into detail about the dispute.<sup>10</sup> Instead, I would like to highlight two other aspects of Stanley's framework.

First, as we can see from the example, it is not necessary for 'the way' to be specified in nonindexical descriptive terms, which determine their reference without the aid of contextual factors. It is sufficient for 'the way' to be specified in context-sensitive terms such as demonstratives or indexicals. Second, the mode of specification (that is, how 'the way' is thought of) is a decisive factor shaping the disposition of corresponding propositional knowledge. As we saw, Stanley holds that adopting a propositional attitude essentially involves possessing dispositions to act in certain ways. The mode of thinking of the object specified in the proposition determines how the subject is disposed to act. As Stanley observes, if one thinks of something in a demonstrative mode, it entails that one is (in typical cases) disposed to locate that thing spatially relative to oneself and to keep track of it as its location and properties change. In a similar vein, Stanley argues that if one thinks of 'the way' to do something in a practical mode, it entails that one has the disposition to act in the very way thought of in that mode.

At this point, one might wonder how such an entailment is grounded and demand a substantial explanation. Such an explanation cannot be circular. That is, it cannot consist of terms which can only be understood through the disposition the entailment of which is precisely what is to be accounted for. But Stanley remarks that providing such an explanation is as hard as giving a non-circular, substantive explanation of the first-person way in which one thinks of oneself as oneself.<sup>11</sup> So, he treats the entailment at issue as a matter of causal mechanism obtaining in the neural-motoric system

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7 Stanley & Williamson (2001) : 427.

8 Frege (1892/2008) : 24.

9 Stanley (2011) : 123.

10 Among others, see Fridland (2012), Koethe (2002), Williams (2008).

11 Stanley & Williamson (2001) : 429.

of the human body. He assumes a certain kind of mechanism that puts into action the propositional knowledge about ‘the way to do’ thought of in the practical mode. Notice that a mechanism such as digesting food proceeds automatically, that is, independently from the agent’s intention. Since it does its job beyond the agent’s intentional control, such a process cannot be called intelligent or stupid in the genuine sense of those words.

Similarly, the process by which propositional knowledge, entertained under the practical mode, is put into action proceeds solely based on a stimulus-response mechanism at the subpersonal level. As such, the process is not knowledge-involving, whether it is propositional or non-propositional. This means that Stanley’s intellectualism entails as its integral part a non-intelligent component. Note that the involvement of this component is not antithetical to his intellectual position, because it amounts to saying only that the intelligence that the skilled action manifests is entirely inherited from propositional knowledge alone. This perfectly accords with the intellectualist’s claim that knowledge-how is one species of knowledge-that. Moreover, there is an important reason why Stanley’s intellectualism must appeal to such a non-intellectual process. Suppose that propositional knowledge presupposes another distinct intellectual process mediating between the knowledge and the implementation of a corresponding skill. How can such a process truly be called intelligent? If it owes its intelligence to another distinct piece of propositional knowledge which guides it, we must assume a further intellectual process that mediates between this guiding knowledge and the process in question. But then, the same step should be taken concerning that process, which leads to an infinite regress. On the other hand, if the intermediating process is intelligent in virtue of non- propositional knowledge, then the knowledge-how manifested in the skilled action cannot be fully reducible to propositional knowledge. So, to maintain the intellectualistic view, Stanley must hold that the intermediating process at issue proceeds automatically, that is, independently of the agent’s intentional states. As a result, his view consists of two distinct components: propositional knowledge about ‘the way’ to do something and an automatic non-intellectual mechanism that puts that knowledge into action. The question is whether such a framework fully captures the distinctive features of knowledge-how. According to Fridland (2012, 2013, 2014), it fails to do so. In the next section, we will have a closer look at her arguments.

## 2. Fridland’s objections

Fridland’s (2012, 2013, 2014) argument proceeds in two stages. At the first stage, she addresses the question regarding what constitutes the skilled part of a skilled action, or in virtue of what the skilled action deserves that name. Fridland’s answer is as follows:

I submit that it is the controlled part of skilled action; that is, that part of an action that accounts for the exact, nuanced ways in which a skilled performer modifies, adjusts, revises, and guides her performance, which we must give an account of, if we are to have an adequate, philosophical account of skill. My claim is that control is at the heart of skilled action because the particular way in which a skill is instantiated is what defines how skillful that action is.<sup>12</sup>

Fridland illustrates this point by presenting a series of cases in which well-trained athletes

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<sup>12</sup> Fridland (2014) : 2731.

demonstrate their best performance. For example, consider world-class tennis players. When we watch them compete for the World Championship, it seems undeniable that their extraordinary skill manifests in highly controlled bodily action. But then, we must ask what qualifies the controlled action as such. As we can see in the quote, Fridland characterizes such an action by describing its observable features, thus emphasizing the controlled action's situationally specific aspect. In particular, her description emphasizes the fact that such actions are specifically adjusted to the situation in which they are implemented. When we consider the technique applied by the top-ranked world-class tennis players in a match, their bodily movements are carefully attuned to each situation, and attuned in such a flexible manner that they are adjusted to various features specific to the situation. Such features presumably comprise various factors, including the strategic condition of the game, the technical condition of the environment, or the mental and physical conditions of players. Without going into detail, I assume that the specific feature of one situation is such a feature to which the skill must be adjusted so that it may be successfully implemented in that situation. It is such an adjustment that makes actions controlled.

Now, how can Stanley's framework account for such a controlled action? As we saw in the first section, this framework divides the skilled action into two parts: propositional knowledge and automatic process. Which side should the controlled action fall into? If it is an automatic process, the controlled action would merely happen to the agent's body in virtue of a sub-personal, causal-level mechanism. As seen above, for Fridland, controlled action is essential to skilled action. As such, controlled action should be a manifestation of knowledge- how, which characterizes skilled actions. Thus, the controlled action cannot be produced by an automatic mechanism, although such a mechanism surely underlies the controlled action. Thus, if Stanley's framework can accommodate the controlled action, it can only do so by treating the action as a matter of propositional knowledge. However, Fridland claims, such knowledge cannot account for the intelligence manifested in controlled action. This makes up the second and main stage of her argument.

A question driving Fridland's argument is how the proposition that specifies the way to act is to be individuated in order to account for the controlled action. According to Fridland, there could be two scenarios. In the first scenario, the proposition is individuated in a coarse- grained way. In that scenario, one and the same proposition, specifying the way to perform a certain skill, can be entertained under the practical mode of presentation on different occasions of skill performance. For example, if one knows that *w* is the way to do a handstand under the practical mode of thinking, one entertains this same proposition under that same mode on each occasion of successfully doing a handstand, no matter when and where. Moreover, such a proposition can be entertained not just by one person, but alike by many people. Thus, those who can do a handstand know one and the same way to do it and they entertain the same proposition whenever they stand on their hands. Under this assumption, the way to instantiate one skill is general or coarse-grained to the extent that the skill can be shared by many subjects not just diachronically, but also synchronically.<sup>13</sup> Yet Fridland points out that such a proposition cannot account for a controlled action. This is because such actions are always performed in particular settings and thereby attuned to the nuances of each situation, whereas the proposition entertained in multiple situations must abstract away from the specific characteristics of particular situations. In the case of the handstand, there are, depending on the situation, many different factors one must take into account to successfully stand on one's hands in that very situation. For example, one must consider the properties of the surface on which one places one's

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<sup>13</sup> Fridland (2012) : 887.

hands. Hence, the controlled action is not accounted for by the generally applicable way as such, but by the ability to adjust such a way to each situation.

How would Stanley explain such an ability? As argued previously, for him, there are only two components of skilled performance: propositional knowledge and an automatic mechanism. If the ability is identical to the latter, then intellectualism is doomed. On the other hand, grounding the achieved adjustment in a further proposition inevitably leads to a regress. This is because, in order to achieve the adjustment, this further proposition must, in turn, be adjusted, which requires another proposition and adjustment, and so on *ad infinitum*. Thus, the proposition cannot be individuated in a coarse-grained way if it is capable of accounting for the controlled action.

What if we individuate the proposition much more finely? This is the second route that Stanley's intellectualism could take. In this scenario, the proposition is individuated in such a fine-grained way that it incorporates each adjustment necessary for the successful instantiation of a skill in each particular situation. Consequently, the propositions differ from each other because each situation has its own features that require adjustments. For example, the proposition that one entertains under the practical mode of presentation to execute a handstand must be different depending on the condition of the surface on which one does a handstand. Moreover, the proposition must be different depending on the person doing the handstand. This is because each individual has their own physical and cognitive particularities and their own skill level. Such factors constitute specific features of each individual and determine their way of performing skills accordingly. Thus, everyone instantiates their skill in a particular way, and no two individuals instantiate their respective skills in the same way.

Fridland's objection to this approach proceeds in two stages. First, she points out the reasons why the conception of a situationally specific proposition itself is problematic. One reason is because such a conception would individuate propositions so finely that their number would explode. Consequently, one would have to learn a great number of propositions to master even one skill, because there would be a specific proposition that one had to know in order to instantiate that skill in each distinct situation. Such a picture of skill-mastery is not only remarkable but also incredible. The number of such finely individuated propositions is presumably unlimited, whereas our cognitive capacity is limited.

But the main concern about the conception of the situationally specific proposition is that it is entirely contrary to the original idea of the proposition. Fridland does not elucidate what this idea is, simply remarking that "a proposition that could only be considered in one context by one person doesn't seem very propositional at all".<sup>14</sup> This remark is enough to guess what she has in mind. Presumably, she thinks that a proposition must be something which can be instantiated repeatedly in various contexts without losing its identity. As such, a proposition must remain the same among its numerically distinct instantiations. From this point of view, the conception of the situationally specific proposition indeed seems to be self-contradictory. On that conception, each instance of the proposition is distinct from every other, not just numerically but also in content. As such, none of these propositions could anymore be type nor token of others, thus making it impossible for them to possess any kind of identity with others. So, situationally specific propositions turn out to be exactly antithetical to the idea of the proposition itself.

In the second stage of her objection, Fridland argues that even if they can find a way to get along with the conceptual problems raised so far, there is a further reason why intellectualists should not take such an approach. The reason is this: on this approach, knowledge-how consists of a multitude

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<sup>14</sup> Fridland (2012) : 19.

of propositions. From those propositions, one must select an appropriate proposition to be entertained under a practical mode of presentation in order to instantiate a skill in a particular situation. How does this selection succeed? According to Stanley's framework, it is achieved by an automatic, unintelligent mechanism, which is responsible for triggering an appropriate proposition in response to the situation-specific stimuli. But Fridland argues that whatever mechanism plays such a functional role must be intelligent. It must be so because the selection-relevant stimuli can be perceived appropriately or inappropriately depending on how attentive agents are. If, for example, due to the lack of attention, one does not recognize the right kind of information relevant for the instantiation of skill in a particular situation, the proposition triggered as a result is presumably not the appropriate one. Thus, if there is a mechanism in virtue of which a proposition is selected, that mechanism must be initiated by some kind of intelligence that directs the agent's attention to the right pieces of information and cuts out the irrelevant ones.

What kind of intelligence is this? If it is propositional knowledge, we must assume that another piece of propositional knowledge is present, in virtue of which the former one can successfully be deployed to initiate the triggering process. But then, we must further ask how that latter propositional knowledge is correctly selected, and the same steps will be repeated *ad infinitum*.<sup>15</sup> The intelligence at stake must therefore be non-propositional. This reveals that, even if we were justified in individuating propositions finely, such propositions alone would not suffice to account for the skilled action. In particular, they could not account for how such propositions became responsible for the successful instantiation of the skill in each situation. To give an account of that, we must appeal to non-propositional knowledge. Thus, the idea of the finely individuated proposition leads us to accept precisely the opposite of what intellectualists claim.

To summarize, Fridland objects that propositional knowledge cannot capture the intelligence manifested in controlled actions, whether that knowledge is individuated in a coarse- or fine-grained way. Both individuation strategies have difficulty accommodating how controlled actions are situation-sensitive. The objections show that the idea of the proposition, by its nature, is in tension with situational sensitivity. On the other hand, the intelligence at stake cannot be reduced to an automatic, unintellectual mechanism. So, to account for knowledge-how, we must appeal to an intelligent but non-propositional mechanism. But Stanley's framework leaves no room for such intelligence. Hence, Fridland concludes that his intellectualist approach to knowledge-how is fundamentally flawed.

However, this move is too quick. It is too quick because, if the problem here is due to the insensitivity of the proposition toward the situational changes, then we are facing the old and well-known problem of indexicality. This problem has been discussed over the decades among philosophers and linguists, and has received increasing attention due to several inspiring works by Castañeda (1966), Perry (1977, 1979), Lewis (1979), and others. These researchers were concerned with the context-sensitive character of indexicals and the difficulty of incorporating them into a classical framework of the proposition. To deal with this difficulty, the researchers proposed a wide range of approaches, from re-interpreting the classical picture of the proposition to replacing it with an alternative one. As in all philosophical discussions, no one proposal avoids all criticism. Still, there are widely acknowledged approaches for resolving the difficulty in question. They show that it is too quick to move from the difficulties raised by indexicals alone to the conclusion that we must

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<sup>15</sup> As Fridland (2012:890) notes, this is a version of the so-called frame problem that originated in the study of artificial intelligence. To the problem, see Dennett (1978) and Fodor (1983). In a sense, the issues raised by Fridland have already been discussed in a wide range of disciplines. Considering the issues in such a broader context, we can better understand their significance.

abandon the notion of proposition altogether. Fridland's objection to Stanley's intellectualism makes this exact move. She not only points out that propositional knowledge has difficulty accommodating the situation-sensitivity that characterizes skilled performance, but also, on this ground, disqualifies the propositional approach altogether, suggesting non-propositional intelligence as an alternative approach to account for knowledge-how. But, if the problem at stake is of a kind with the problem of indexicality, this step is premature. Thus, Fridland's objection to Stanley's intellectualism is not conclusive enough to refute his argument.<sup>16</sup>

Of course, my criticism of Fridland's objection is justified only if the two problems are indeed of the same kind. In the next section, I will argue that they are by demonstrating that each problem that Fridland finds in Stanley's intellectualism parallels the problems that indexical sentences pose to the classical picture of the proposition. This argument will reveal that the problems that Fridland points out can be justifiably treated as problems of indexicality.

### 3. Parallel problems of knowledge-how and indexicals

Before we examine the parallels between objections to Stanley's intellectualism and the problem of indexicals, let us clarify what is meant by the classical picture of the proposition. Traditionally, indexicals, as well as demonstratives, have been studied mainly by means of the Fregean framework. According to that framework, each sensible sentence expresses the so-called thought (*Gedanken*), which, in contemporary terms, corresponds to the proposition. Notably, the thought consists of the sense, not the reference, of expressions that compose the sentence. Thus, the question of how the semantic content of indexicals can be captured in terms of propositions amounts to the question of how their sense can be incorporated into the thought. As many researchers have argued, we cannot find a sense of indexicals which counts as a genuine constituent of the thought. How can that be? As with knowledge-how, there are again two options to consider: individuating sense in a coarse-grained way and in a fine-grained way. The consequence is also the same: both options lead to significant problems that seem to indicate that the propositional approach does not work. Let us examine them one by one.

In the case of knowledge-how, the first option is to individuate the proposition in a coarse-grained way so that one and the same piece of propositional knowledge can be entertained to instantiate a skill in various situations. As we have seen in the previous section, propositions so coarsely individuated are too general and abstract to capture the situationally-adjusted part of skilled performance. This shortcoming has a similar physiognomy to the issue that, according to Perry (1979), limits Frege's theory of language regarding indexicals. Following Dummett (1973), Perry construes the sense of an expression as "what we know when we understand it", clarifying that "what we know when we understand it is something like an ideal procedure for determining its reference".<sup>17</sup> What, then, is the sense of indexicals? When we understand these expressions, what we know is, above all, their linguistic meaning. Their meaning characteristically has a rule-like form. For example, the linguistic meaning of 'today' is something like a rule taking us from a particular usage of this expression to the very day of that usage. But such meaning cannot be identified with the sense because it does not,

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<sup>16</sup> Of course, this does not mean that Stanley's intellectualism is free from any criticism. My aim is to point out that it is unwarranted to think that Stanley's view is wrong just because of the problems revealed by Fridland. However, this does not mean that my considerations have merely local significance limited to the discussion on the issues raised by Fridland. As I note in footnote 15 these issues show great significance in various contexts of discussion.

<sup>17</sup> Perry (2000) : 2.



on its own, suffice to determine the reference. Consider an indexical sentence such as ‘it is raining today’. According to Frege, this sentence, uttered in a particular situation, expresses a thought. Now, the thought expressed by such a sentence on distinct days must differ from each other: they are about the weather on different days. But the linguistic meaning of ‘today’ remains the same every day. So, the reference of indexicals cannot be determined by the linguistic meaning alone; there must be something more. Therefore, the linguistic meaning cannot justly be called their sense. The structural similarity between this and the problem with the coarse-grained propositional approach to knowledge-how is evident: the linguistic meaning of indexicals is too abstract and too general to capture their contextually determined sense, just as the way to perform a skill, individuated in a coarse-grained way, is too abstract and general to capture the situational adjustments and amendments involved in implementing the skill.

When discussing knowledge-how, we can avoid this problem by narrowly individuating the way to perform a skill. Indeed, this is the second option that Fridland proposes for Stanley’s intellectualism. Now, I will show that there are corresponding positions and problems concerning indexicality. Such a position is suggested by the consideration that, depending on the context, indexicals must express different senses for each distinct instance of contextualized use to refer to the right object in the very context. As previously stated, such a sense cannot be identified with the linguistic meaning of indexicals. But, then, what is it? There are several answers offered by prominent works on this issue. The most influential proposal is Evans’ (1981). According to him, the sense of an expression is, generally speaking, the way of thinking of the thing to which the expression refers. The sense of an indexical like ‘today’, for example, is a particular way in which one thinks of the day referred to, namely, the day on which the expression is uttered. Such a way must be the one that makes it possible to think of the referent in a particular way. For example, the way of thinking of the day referred to by ‘today’ must be the way in which one thinks of the day as the *current* day. Consequently, such a way can be used just on the very day on which ‘today’ is uttered. This fact makes each such way of thinking distinct from each other. For example, the way of thinking of the day *d* as the current day differs from the way of thinking of *d* as the current day simply because they are the ways of thinking that can be exploited just on the day *d* and *d*’ respectively. ‘Today’ thus expresses a different sense on each distinct day, and other indexicals do likewise. Evans, and philosophers sharing the same idea, present theories according to which the sense of indexicals is individuated so finely that it turns out to be unique to each distinct context, namely contextually specific.

Now, we are in the position to see that such a view creates exactly the same kind of problems as those created by the conception of the situationally specific proposition. This is a consequence of individuating the way to perform a skill in a fine-grained way. Recall that the latter problems are, as Fridland points out, twofold: there are problems with the conception itself and the problems with its viability as a means of accounting for knowledge-how. The discussion on the indexicality reveals the same kind of twofold problem. Importantly, philosophers are clearly aware of it. For example, Evans admits that the view he endorses may seem implausible because it implies that there is “an infinite number of distinct, primitive, and particular ways of thinking of objects—one for each time.”<sup>18</sup> Similarly, Kripke (2008) sees clearly that such a view, without any proper treatment, renders our normal understanding and usage of an indexical to be an incredible task. These problems are exact counterparts of the problems Fridland points out concerning the conception of the situationally specific proposition.

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<sup>18</sup> Evans (1981) : 315.

But Fridland's main concern about this conception is that it would be antithetical to the basic idea of the proposition. As mentioned in the last section, a proposition must be something which can be instantiated in various contexts without losing its identity. If we consider the discussion of indexicality, we will easily see that this principle poses a serious challenge to those who construe the sense of indexicals as situationally specific. Recall that Frege (1892/2008) describes the sense of an expression as the way in which the referent of the expression is presented. Thus, 'today is fine' uttered on the day  $d$  expresses a thought that contains as its part the sense of 'today', which is the way in which the day  $d$  is presented as the current day. But then, such a thought cannot be expressed on other days than the day  $d$ . For example, on the next day  $d'$ , one may report the weather of the previous day  $d$ , uttering 'yesterday was fine'. But the thought expressed by such an utterance cannot be identical with the one at issue because the sense of 'yesterday' in the utterance is the way in which the day  $d$  is presented as the day before.

However, it is somewhat puzzling that Frege himself does not seem to think that his theory of sense has such a consequence. In a well-known passage in *The Thought*, he claims: 'If someone wants to say the same today as he expressed yesterday using the word "today, he must replace this word with "yesterday."' <sup>19</sup> Here, Frege obviously holds that 'today is fine' uttered on a certain day expresses the same thought that is expressed by 'yesterday was fine' uttered on the next day. Thus, for Frege, the thought, that is, the proposition expressed by an indexical sentence in a particular context, is something that can be instantiated in different contexts. The question is, however, how this is possible when the sense of indexicals is construed as unique to each distinct context.

Many philosophers involved in the discussion of the sense of indexicals take up this question. For our purpose, Evans' approach (1981: 310) is worth mentioning. That approach attempts to ensure the identity between the senses by appealing to our ability to 'keep track of' a certain object in changing contexts. According to Evans, this ability is presupposed to have a thought about a temporal state. For example, one can think 'today is fine' on a certain day  $d$  just if one can keep track of the day  $d$  and think 'yesterday was fine' on the next day. Now, the day  $d$  is thought of as the current day on  $d$  and as the day before on  $d'$ . But this difference is, so to say, only a difference between two appearances of one and the same way of thinking of  $d$  over time. The ways of thinking of the day  $d$  on both days, thus, turn out to belong to the same way of thinking. 'Today' uttered on the day  $d$  and 'yesterday' uttered on the day  $d'$  express the same sense because, for Evans, the Fregean sense of expressions is the way of thinking of their referent.

Evans' argument shows that the sense of indexicals can retain its identity over different contexts. Hence, it shows that the thought expressed by an utterance of an indexical sentence in a particular context may be instantiated in different contexts, although the sense of indexicals is unique to each distinct context. But then, this argument can also remedy the other conceptual concerns mentioned above because they all rest on the concern that, if we construe the sense as context-specific, we must deal with an infinite number of distinct senses—and hence, an infinite number of distinct thoughts. We can thus see that the discussion of indexicality does not merely correspond to the conceptual problem with the situationally specific proposition, but also offers a solution to that problem.

But as shown in the previous section, Fridland argues that even if we can clear the conceptual issue, situationally specific propositions cannot fully spell out knowledge-how. This is her second and last objection to fine-grained way of individuating the required propositional knowledge. She argues that such knowledge demands some kind of intelligence to apply the right propositions to

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<sup>19</sup> Frege (1918/1967) : 24.

each distinct situation. That intelligence, however, must be non- propositional. Otherwise, it would lead to an infinite regress. Thus, the propositional knowledge at issue turns out to be reliant on non-propositional knowledge to account for knowledge-how. So in the end, the appeal to such a proposition runs contrary to Stanley's position that knowledge-how is essentially propositional knowledge.

Regarding indexicality, we can see that there is also a similar problem related to the mechanism of applying the right proposition. For that, let's consider Frege's well-known remark on the thought about the *self*:

Now everyone is presented to himself in a particular and primitive way, in which he is presented to no one else. So, when Dr. Lauben thinks that he has been wounded, he will probably take as a basis this primitive way in which he is presented to himself. And only Dr. Lauben himself grasp thoughts determined in this way.<sup>20</sup>

Here, Frege clearly endorses the view that self-thought has, so to say, limited access: it is open to the relevant individual alone. Many researchers point out that, if Frege remains consistent with his theory of sense and reference, he must further endorse the view the self- thought must differ for each unique individual. If it does not so differ, Dr. Lauben's self-thought that he has been wounded would be identical to another person's self-thought that he or she has been wounded. But they cannot be the same thought because they concern distinct individuals. Here, as before, the self-thought must be individuated so finely that it becomes unique to each unique individual. For that fine-grained individuation to occur, the sense of 'I' must also be finely individuated because it is the constituent in virtue of which the self-thought can concern different individuals depending on the context. Now, for Frege, the sense of an expression is the way in which the referent of the expression is presented. Thus, if the sense of 'I' is contextually specific, that is, unique for each individual, Frege must admit not just that everyone is presented to himself in a particular and primitive way, but also that everyone is presented to himself in the way in which *no one else* is presented to himself in turn. The question is how such a specific way of self-presentation can enable one to have a thought about *oneself*. Notice that thought cannot be self-thought just because it is grounded in this unique way of self- presentation. For that, one must know that the person presented in this way is herself. So, the full-fledged self-thought must entail some kind of self-identification. To achieve a self- identification, however, one must be able to recognize that the way of presentation in question is a typical way in which she *herself* is presented. If this prior self-identification is achieved, once again, in virtue of a unique way of self-presentation, we must assume an additional prior self-identification. About that prior self-identification, we must ask again how it is achieved, and so on *ad infinitum*.<sup>21</sup> We can see that this is the same kind of challenge faced by those who seek an account of knowledge-how as finely individuated propositional knowledge.<sup>22</sup>

So far, we can see that for each problem Fridland points out in the propositional approach to knowledge-how, there is a corresponding problem with the propositional approach to indexicality. Since each pair of those corresponding problems has essentially the same nature, it is reasonable

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<sup>20</sup> Frege (1918/1967) : 25-26.

<sup>21</sup> Bermúdez (1998) explicates this problem as the paradox of self-consciousness.

<sup>22</sup> Here, I focused on just the problem with the self-thought. But I am sure that the same kind of problem can be submitted in terms of other indexical thought like thought concerning 'now' or 'here'. So, the problem at issue is caused by something essential to the indexicality in general.

to take the former problem with knowledge-how as a problem of indexicality. The difficulty that the intellectualistic approach faces is, ultimately, the difficulty of capturing context-sensitivity in terms of the proposition. Is this difficulty so severe that we must abandon the propositional approach altogether? It is not. As mentioned previously, the case of indexicals provides us with a wide range of approaches, on which the difficulty is solved within the propositional framework. Such approaches should also apply to the difficulty with knowledge-how because, as it turned out, both problems have a common root. In the following section, I demonstrate one such application.

#### 4. An alternative picture and its application

Philosophers involved in the discussion of indexicals often attempt to deal with the problem by correcting some elements of the broadly Fregean framework, whether they take their attempt to be a re-interpretation of or an alternative to the framework. I want to focus on the approaches proposed by Evans (1981,1982) and Kripke (2008), who attempt to manage the problem within Frege's framework. Their approaches differ from each other in significant respects. However, they agree on how the Fregean view should be re-interpreted. The idea that they both attack is a certain conception of Fregean sense according to which the sense can be grasped independently from the specification of reference. One might be led to such a view if one understands sense based on definite description. For example, 'the prime minister of England in January 1970' expresses a sense which specifies a particular individual, namely the sense that can be spelled out in terms of that very description. One can grasp such a sense without knowing who the individual is, that is, without specifying the referent. In such a case, one must *first* grasp an adequate sense to specify the corresponding reference. Thus, it might seem reasonable to construe the sense as a pre-condition for, but independent from, the reference.

But the philosophers mentioned above point out that such an interpretation is not mandatory and not even justifiable in the case of singular names. According to these philosophers, sense should be understood as something that can only be grasped in the course of specifying the referent. Kripke describes his view as follows: "one does not, when using an expression or introducing an expression, have to specify two things, its reference and its sense. Once one specifies the reference one has specified the sense."<sup>23</sup> As Evan's slogan "no referent- no thought (sense)"<sup>24</sup> nicely puts it, this view makes the sense dependent on the reference. Let us consider a concrete case of such a referent-dependent sense with the sense of 'I'. According to the view at hand, one does not need to specify a sense of self to think about oneself as oneself. Rather, once one thinks about oneself in a relevant context, one has specified the relevant sense—that is, the first-person way of thinking. Notice that grasping the sense in this way does not produce an infinite regress like we saw in the previous section. That regress presents the main challenge to the propositional approach to the context-specific sense of indexicals. On the proposed approach, one does not need to specify sense itself in the first place so no regress gets off the ground. Thus, the idea of referent-dependent sense suggests a solution to the context- sensitivity of indexicals within the propositional framework.

But at this point, two questions need clarification. The first question is what makes one grasp a certain sense, or, in other words, think about the referent in a certain way rather than in another. For example, what makes one think about oneself in a first-person way rather than the third-person way?

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<sup>23</sup> Kripke (2008) : 182.

<sup>24</sup> Evans (1982) : 31.

To answer this question, we can appeal to Evans' idea of the 'information link'. This link is, so to say, a cognitive channel through which the subject gathers information from the object. Notably, the link is connected to the object not in virtue of the content of information. Rather, the connection is established in virtue of being in an epistemic relation in which the subject stands to the object. There is, for example, a specific type of information link which one has to oneself in virtue of a relation in which one can stand only to oneself, that is, identity. One such link, for example, is the link based on proprioception or other somatic perceptions. An information link of this kind is exploited when one thinks of oneself as oneself. By contrast, when one thinks of oneself otherwise, for example, in a third-person way, other types of information links to oneself are exploited, such as those links based on visual perception or testimony. Thus, the answer to the first question—what makes someone think about the referent in one way rather than another?—might be that it is in virtue of (types of) information link that one thinks about the object in a particular way.

Yet such an answer prompts a further question. Namely, one might ask what causes one information link in particular to be exploited rather than another. It seems unlikely that selecting information links depends on propositional knowledge about the way of thinking. If that were the case, it would entail that the information link was identified in terms of a way of thinking, for example, 'this is the first-person way of gaining information'. But that would be circular. Thus, it seems that we must appeal to some non-propositional cognitive mechanism to answer the question at issue. Does it mean that such a mechanism ultimately determines in which way one thinks of particulars? If that were the case, we must retreat from the propositional approach.

However, it is not the case. It is not the case because, even though such an automatic cognitive mechanism determines the information link, the link alone is not sufficient for one to think of the object in a particular way. Recall that the link is connected to the object not in virtue of the content of information but rather, in virtue of the relation in which the subject stands to the object. Thus, as Perry (1989) and Recanati (2009) claim, the information link *per se* does not provide information representing its object. Rather, they provide the information that has its significance relative to the object. As such, its content cannot be spelled out in terms of the proposition. Instead, it should be understood as a *propositional function* or *property* that can only be evaluated with regard to a particular object.<sup>25</sup> In the case of self-thoughts, the information provided through the corresponding information link lacks any self-representing component. In Perry's terms, it *concerns* the subject but is not *about* her.<sup>26</sup> Accordingly, self-thoughts at this most basic level, which Recanati characterizes as implicit *de se*, cannot be qualified as 'self-thoughts' in a genuine sense. In general, the information link alone is not sufficient for one to think about a particular in a certain way because it alone does not enable one to think about a particular *at all*. For that, one must individuate the object of thought on the basis of a particular type of information link. Such individuation entails keeping track of the object across various contexts by exploiting other types of information links. For example, one might individuate a certain day, 15 October 2021, on that very day. Based on a corresponding information link to the day, one would not only think "today is 15 October, 2021" but also keep track of it in following days. One can think, on the following day, that "yesterday was 15 October 2021" and so forth. Thus, it is because one has thoughts about particulars that one can think about them in various ways. The ability to think about particulars in various ways presupposes that one has a propositional attitude toward the thought.

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<sup>25</sup> Perry (1986) : 179, Recanati (2009) :258.

<sup>26</sup> Perry (1986) : 179.

Let us turn to the propositional approach to knowledge-how. If I'm right, a parallel approach can be applied to the difficulty it faces. As we saw above, in the case of indexicals, researchers re-interpret the Fregean sense. Similarly, we can revise the presupposed picture of propositional knowledge about 'the way to do'. That picture is as follows. To execute the skilled action, one must specify 'the way to do' independently of its actual implementation. On this view, the action implementation must be initiated by a separate action of specifying 'the way to do'. However, this is not the only available view. We can adopt an alternative picture according to which the specification of 'the way to do' is dependent on the actual implementation of the corresponding action. By analogy with Kripke's passage quoted above, we can describe such a view as follows. One does not, when executing the skilled, controlled action, have to do two things, specifying 'the way to do' and executing the action in that way. Once one executes the action, one has specified 'the way to do'. Accordingly, one does not first need to specify 'the way to do' to execute controlled actions. Rather, once one executes those actions in a particular situation, one has specified the relevant 'way to do', or the situationally-adjusted way for that very situation. Notice that, on this view, specifying 'the way to do' does not cause an infinite regress like we saw in the second section. That regress poses the main challenge to the propositional approach to the situation-specific character of 'the way to do'. Since one does not need to specify 'the way to do' itself in the first place, no regress gets off the ground. Thus, the idea of action-dependency enables us to deal with the situation-sensitivity of 'the way to do' within the propositional framework. As in the case of indexicals, however, there are two especially significant questions to be clarified.

First, such a view prompts the question of what enables one to specify 'the way to do' through the actual implementation of an action. To answer this question, we can posit a specific type of information link: an action-based information link. This is a link that one has to one's ongoing bodily action, that is, the link based on the agent-action relation. Such a type of information link provides information that one can gain about an action by executing the very action in a particular situation. This kind of link serves as a basis for specifying 'the way to do'. Namely, this is a link that enables one to know that what one is doing in a particular situation is the way to do that thing in that very situation.

Again, this answer prompts a further question: how is the action-based information link employed? Just as in the case of indexicals, it is unlikely that the employment depends on the propositional knowledge about 'the way to do'. Likewise, we must admit that such employment is to be attributed to some non-propositional motoric mechanism. But then, is it not that mechanism which is ultimately responsible for one's knowledge about 'the way to do' in certain situations? If that were the case, we must retreat from the propositional approach to knowledge-how.

But again, it is not the case. As one kind of information link, the action-based information link *per se* does not provide information representing its object, that is., a particular ongoing action. Rather, it provides information that is significant relative to such an action. For example, consider shooting a three-pointer. In that case, as one moves, one perceives various changes concerning various elements including one's own motoric state and the relative location of the basketball net. But the three-pointer itself executed in a particular situation is not represented explicitly in the content of perception. Again, in Perry's terms, such information *concerns* particular actions, but it is not *about* them. Thus, the action-based information link alone is not sufficient for one to know that one's ongoing action in a particular situation is the way to do that action in the very situation. To know that, one needs to individuate the action based on the action-based information link. Such individuation

entails that one can keep track of the action over various situations. For example, suppose one individuates one's shooting of a three-pointer in a particular situation. In that case, one knows not only that this is the way to shoot a three-pointer in that very situation but one can also keep track of this skill in different situations. That is, one knows in each distinct situation that one is executing the same skill (the three-pointer) in a way that fits the actual situation. Thus, it is because one knows that one is doing something in particular that one can specify the way to do it in each distinct situation. Propositional knowledge about 'the way to do' presupposes propositional knowledge about what one is doing.

We can see that the proposed approach enables us to deal with the problem. It explains how one can have situation-specific, propositional knowledge about 'the way to do'. Importantly, it provides an account without causing a regress or resorting to a non-propositional (but intelligent) cognitive mechanism. Contrary to Fridland's argument, we do not have to abandon the propositional view to account for the intelligence of controlled actions.

### Conclusion

It was shown that the problems with intellectualism pointed out by Fridland could be justifiably considered as the problems of indexicality. Namely, both problems have the same root: the difficulty of incorporating the context (situation) sensitivity into the proposition. This equation justifies the application of the approach developed in the discussion on indexicals to the problems with intellectualism. Indeed, we saw how one could solve them by adopting such an approach within the propositional framework. Thus, Fridland's arguments turn out to be not justifiable. This is a negative moral we should draw from our considerations. At the same time, this paper sheds light on how knowledge-how as propositional knowledge should be understood. On the proposed view, knowledge about 'the way to do' is construed as dependent on the actual execution of actions by analogy to the reference-dependent sense. As a result, the knowledge in question cannot be regarded anymore as action-guiding. On the other hand, it cannot be regarded as action-reporting, either, because such a view would be implausibly self-alienated. Thus, the propositional knowledge about 'the way to do' should be something that is specified neither *before* nor *after* but *in* the very action being executed. It will be a task of future research to spell out this picture.

### Bibliography

- Bermúdez, Jos Luis. (1998). *The Paradox of Self-consciousness*, Cambridge: MIT Press.
- Castañeda, Hector-Neri. (1966). 'He': A Study in the Logic of Self-Consciousness, *Ratio*, vol. 8, 130-157.
- Dennett, Daniel. (1978). *Brainstorms*, Cambridge: MIT Press. Dummett, Michael. (1973). *Frege*. London: Duckworth.
- Fodor, Jerry. (1983). *The Modularity of Mind: An Essay on Faculty Psychology*. Cambridge: MIT Press
- Evans, Gareth. (1981). "Understanding Demonstratives, in Herman Parret and Jacques Bouveresse (Ed.), *Meaning and Understanding*, 291-321: Walter de Gruyter.
- . (1982). *The Varieties of Reference*, Oxford: Clarendon Press.
- Frege, Gottlob. (1892/2008). "Über Sinn und Bedeutung, in *Funktion, Begriff, Bedeutung. Fünf logische Studien*, (Ed.), Günther Patzig, 23-46, Göttingen: Vandenhoeck&Ruprecht.

- . (1918/1967). “The Thought: A Logical Inquiry, in *Philosophical Logic*, (Ed.), Peter Strawson, Oxford: Oxford University Press.
- Fridland, Ellen. (2012), “Knowing-how: Problems and Considerations, *European Journal of Philosophy*, 23 (3) :703-727
- . (2013). “Problems with Intellectualism, *Philosophical Studies*, vol. 165, no.3, 879-891.
- . (2014). “They’ve lost control: Reflections on Skill, *Synthese*, vol. 91, no.12, 2729-2750.
- Koethe, John. (2002). “Stanley and Williamson on Knowing How, *The Journal of Philosophy*, vol. 99, no.6, 325-328.
- Kripke, Saul A. (2008). “Frege’s Theory of Sense and Reference: Some Exegetical Notes, *Theoria*, vol. 74, issue 3, 181-218.
- Levis, David. (1979). “Attitudes De Dicto and De Se, *The Philosophical Review*, vol. 88, no. 4, 513-543.
- Perry, John. (1977). “Frege on Demonstratives, *Philosophical Review*, vol. 86, no. 4, 474-97. Reprinted in Perry (2000), 1-26.
- . (1979). “The Problem of the Essential Indexical, *Nous*, vol. 13, no.1, 3-21. Reprinted in Perry (2000), 27-44.
- . (1986). “Thought without Representation, *Proceedings of the Aristotelian Society, Supplementary*, vol. 60, no.1, 137-151. Reprinted in Perry (2000), 171-188.
- . (2000). *The Problem of the Essential Indexical*. Stanford: CSLI Publications.
- Recanati, François. (2009). “De re and De se. *dialectica*, vol. 63, no. 3, 249-269.
- Ryle, Gilbert. (1949/2000). *The Concept of Mind*. London: Penguin Group.
- Stanley, Jason and Timothy, Williamson. (2001). “Knowing How, *The journal of philosophy* 98, no.8, 411-444.
- Stanley, Jason. (2011). *Know How*. Oxford: Oxford University Press.