Linking Disposition Ascriptions and Conditionals: A Wittgensteinian Approach

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> Our language can be seen as an ancient city; a maze of little streets and squares, of old and new houses, and of houses with additions from various periods; and this surrounded by a multitude of new boroughs with straight regular streets and uniform houses.
> Wittgenstein, *Philosophical Investigations* (section 18)

> To imagine a language means to imagine a form of life.
> Wittgenstein, *Philosophical Investigations* (section 19)

1. Introduction

Dispositions, such as fragility, solubility, combustibility, bravery, etc., are abundant in the world. What it is for an object or subject to possess a disposition, however, has deeply puzzled philosophers (Goodman, 1954). A popular approach to tackling this ontological issue begins by asking a foremost semantic question: What does a disposition ascription mean? The underlying idea is that if we do not have a minimum grip of what we are talking about when making a disposition ascription, the chance is slim that we get a clear picture of what a disposition is (see Mellor, 2000). Traditionally, the conditional account has been the most dominant approach to explicating the meaning of a disposition ascription, endorsed by philosophers such as Ryle (1949), Goodman (1954), Quine (1960), and many others. However, this approach faces serious challenges presented by Martin (1994), Johnston (1992), Bird (1998) and others. Despite a wide consensus that the conditional approach is a dead end in analyzing disposition ascriptions, philosophers such as Choi (2003, 2006, 2008) and Manley & Wasserman (2007, 2008; etc.) have recently made impressive efforts to revive the conditional accounts.

The aim of this paper is not so much to initiate an all-embracing inquiry of the prospects of the conditional approach in light of the most recent developments in the literature, but to sketch an alternative picture based on some of Wittgenstein's insights about language. By doing so, we may obtain a fresh and larger perspective to look at what a disposition ascription means and how it relates to other intriguing linguistic expressions such as counterfactual conditionals and *ceteris paribus*.

Below, we begin with a brief illustration of the conditional approach and some of the persistent difficulties which it encounters.

2. The Conditional Accounts and Their Difficulties

Given the obvious link between a disposition ascription and a counterfactual conditional, the simple conditional account draws an equivalence relation between these two types of statements by the following formulation:

> (SCA) S is disposed to M when C iff, if S were in C, S would M.

Martin (1994) provides us with a pair of examples which are widely regarded as a knock-down argument against (SCA). The first case he asks us to imagine is this. A dead wire, though not disposed to conduct electricity when touched by a conductor, is connected to an electro-fink, a device which makes the wire conduct electricity whenever it senses that the wire is about to be touched by a conductor. In this case, the disposition ascription "The wire is live" is false. However, its corresponding counterfactual analysis "If the wire were touched by a conductor, it would conduct electricity" is true. Hence, (SCA) comes out false. The second case is a reverse version of the first case. The wire is live, but the electro-fink renders it dead as soon as it senses that the wire is about to be touched by a conductor. In this case, the disposition ascription is true, but its corresponding counterfactual analysis is false. Again, (SCA) turns out to be false. Taken together, the two cases show that a counterfactual conditional is neither sufficient nor necessary for analyzing a disposition ascription.

Lewis (1997) has proposed a refined conditional account to avoid the problem of fink, ional analysis to avoid the problem of fink as follows:

> (RCA) S is disposed to M when C iff S has some intrinsic property B such that, if it were the case that C, and if S were to retain B, then S would M because C and because S has B.

By including the idea of intrinsic property B in (RCA), Lewis' analysis can nicely predict that a live wire would conduct electricity when touched by a conductor, *if it were to retain its intrinsic property*. In a similar vein, regarding the case which involves a dead wire in the presence of a fink, (RCA) also predicts that if the wire were to retain its intrinsic property when touched by a conductor, the wire would not conduct electricity. Thus, the fink cases pose no threat to (RCA).

(RCA), however, is subjected to a grave problem. As Johnston (1992) and Bird (1998) point out, there are numerous cases where a disposition is in place when receiving its characteristic stimuli, but fails to manifest itself because of being "masked" or inhibited by some interfering factors. For example, a fragile glass may be so carefully wrapped with some soft material that it would not break if struck. Upon being struck, this glass retains its intrinsic property of fragility, but would not break, due to the presence of wrapping material playing the role of a masker. In this case, (RCA) is false, while the fragility attribution is true. As a result, (RCA) is not a correct analysis of a disposition ascription. A bit further reflection would show that the problem of mask also arises in (SCA).

In facing the problems of mask and fink, proponents of the conditional approach typically invoke the idea of normal conditions, ideal conditions, or *ceteris paribus*. By inserting such term into the antecedent of a conditional analysis, the presence of a mask or fink can be regarded as a case where normal or ideal conditions are not met. The conditional analysis can thus be rendered true (e.g., Malzkorn, 2000; Mumford, 1998). This kind of move faces a dilemma, however. One horn of the dilemma concerns how such conditions may be explicitly fleshed out, given the open-ended nature of masking factors. The other horn of the dilemma is that, if the specification of normal or ideal

conditions does not involve spelling out a substantial list of interfering factors, these conditions will be so vague that they tend to trivialize a conditional analysis which contains them (see Fara, 2005). In face of these difficulties, the prospects of the conditional approach to give a truth-conditional analysis of disposition ascriptions seem dim.

3. Wittgenstein on the Nature of Language

The difficulties encountered by the conditional approach are to be anticipated by the later Wittgenstein. As was vigorously shown in *Philosophical Investigations*, the nature of language is not to be revealed by the notion of truth-conditions, by stating what the states of affairs are to which statements are purported to correspond or report. Rather, it comes into view on the basis of closely observing how a statement is actually made and what purpose it serves by making it. The following are a few examples and vivid images which Wittgenstein employs to illustrate his view about language.

First, Wittgenstein asks us to consider two simple language games. In section 2, we are to imagine a primitive language which consists of only four words: blocks, pillars, slabs, and beams. Two speakers, a builder A and an assistant B, use these words in a construction site. Upon hearing a call from A such as "Slab!", B has to pass the slabs to A; if A gives the order "Blocks!", B has to bring the blocks over; etc. As children brought up in the community, the two speakers have been trained to "perform *these* actions, to use *these* words as they do so, and to react in *this* way to the words of others" (section 6, PI). If meaning is what turns a piece of linguistic item into part of the language, meaning lies in the particular ways in which a word is used, not in some mental images the word invokes in the head of the speakers and hearers, or in some objects it signifies. This way of looking at how language works is in sharp contrast to a traditional view adopted by philosophers such as Augustine and Frege, who regard the notions of reference and truth as the basic building blocks in theorizing about the nature of language.

In Section 8, Wittgenstein expands this primitive language to include i) two new words: "there" and "this", used in connection with a pointing gesture; ii) a series of letters of the alphabet used as numerals: "a", "b", "c", "d", etc.; and iii) a number of color samples. These three groups of words are used differently. For example, "there" is used to signify some location, but the location it signifies varies from context to context; it depends on the direction to which the speaker performs the pointing gesture when uttering "there". The use of "there" evidently differs from that of "slabs" whose referents do not seem to vary from context to context. The way in which a letter of the alphabet like "d" is used is in turn different from that of both "slabs" and "there"; the former requires very dissimilar training processes and reactions to quantitative properties of the objects. A color sample, on the other hand, does not belong among the words, but may be construed as part of the language in Wittgenstein's view, because it also plays a certain role in the language game.

A close look at the kinds of words in the expanded language reveals that their functions diversify. Wittgenstein draws an analogy based on the tools in a tool-box to make this point (section 11, PI). Tools in a tool-box may include a hammer, pliers, a saw, a screw-driver, a rule, glue, nails, etc. There appears to be no function which those tools share in common. Words are of a similar predicament. Wittgenstein points out that our confusion about words is due to the "uniform appearance of words when we hear them spoken or meet them in script and print", and this confusion results in our forgetting that "the functions of words are as diverse as the functions of these objects".

In Wittgenstein's view, the section-8 language can be seen as *evolving* and *expanding* from the section-2 language, due to a more complex way of life involved in the former. The richer pool of linguistic tools is interwoven into, and partly constitutive of, a more complex way of life in the section-8 linguistic community. Our ordinary language can be compared to the section-8 language game: it can evolve and expand, so much so as to incorporate the kinds of words such as "the symbolism of chemistry and the notation of the infinitesimal calculus" (section 18, PI). It would be wrong to think that a seemingly more exact, newly developed, part of our language can be used as a model or instrument to analyze an apparently less exact, older, part of our language, and to claim that the hidden meaning of the latter can be uncovered by the former. The "broom" example (section 60) is used to illustrate this point. Suppose someone says that what "My broom is in the corner" really means is "The broomstick is there, and so is the brush, and the broomstick is fixed in the brush". By saying so, the person treats the former as concealed in the latter and brought out by the analysis. This way of looking at things is not only odd, but also misleading in revealing how our language works. Suppose someone insists that the more exact part of our language is more useful, and hence undertaking a semantic analysis by appeal to it has some indispensible advantages. Considerations of an expression "Stand roughly here" (section 88, PI) easily show where this thinking goes wrong. This expression is as inexact as it could be, and any attempt to make it more exact can only risk rendering it useless in many of the occasions.

The upshot is that the meaning of a linguistic expression cannot come from conceptual analyses. Rather, it has to come from the use in the language (section 43, PI). And the use of words lies in "a custom" (section 198, PI), or in "master of a technique" (section 199, PI), which resists any further explanation but can only be understood in terms of "form of life" (section 241, PI). Seen in light, taking the conditional approach to reduce disposition ascriptions is doomed to fail from the very start.

4. Disposition Ascriptions and Conditionals (Dis-)Connected

I propose that we adopt a Wittgensteinian position, which enables us not to misconceive of the link between disposition ascriptions and conditionals. My major claim is that both disposition vocabularies and conditionals are parts of our ordinary language, each possessing different types of functions, and each corresponding to distinct forms of life. Thus, it would be wrong to analyze one in terms of another.

To back up my claim, we first observe that an ordinary disposition term like "fragility" and a conditional such as "If x were struck, it would break" have dissimilar patterns of application. For example, ordinary people still apply a disposition term when its corresponding conditional fails to hold. The fact that a glass did not break when struck would not necessarily lead people to ascribe "fragility" to the glass. The world is full of masking factors, and people are aware of that. Another example is this. Some disposition term may be such that ordinary people would say that they have some basic idea of it while acknowledging that they know little of its corresponding conditional. "Superconductivity" is one such case. Ordinary people take

it to refer to some special hidden property of certain objects, without having a slightest idea of what behavior those objects would produce and under what stimulus conditions. In such a case, a disposition ascription and a conditional come apart in people's linguistic usage. People perceptibly play two different language games with these two types of sentences.

Underlying the disparity in question are some facts about human psychology that have been largely ignored by contemporary philosophers. Children evidently learn and acquire ordinary disposition vocabularies at a relatively early stage, and use them competently in the conduction and navigation of their lives on a daily basis. For example, children as young as four years old are able to use novel dispositional trait labels like "shy" or "mean" to make non-observable inferences (Heyman & Gelman, 2000). On the other hand, experimental results show that children exhibit a strong tendency to interpret a conditional (if p, then q) as a conjunction (p & q), and are unable to entertain the other three possibilities until a much later stage (Kuhn, 1977; Barrouillet, et. al., 2008). A significant discrepancy visibly exists between children's competent understanding of an ordinary disposition vocabulary and their ineptitude in grasping the meaning of a conditional.

I hypothesize that an innately endowed essentializing cognitive mechanism (Gelman, 2003) underlies children's comprehension and production of disposition ascriptions. This mental capacity enables children to think that certain categories are natural kinds, and members of a same kind have some common hidden property which accounts for the fact that they tend to behave or look in similar ways. In contrast, conditionals belong to a distinct type of words in our language, and thinking in those terms takes place at a developmentally much later stage. Once acquired, the capacity to use conditionals competently provides people with an epistemic tool to identify dispositional properties which are invisible by nature. Given that many dispositions bear pragmatic significance in our ordinary life, the employment of conditionals may become prevalent and of foremost importance for adults when processing disposition ascriptions. Nonetheless, the essentializing thinking pervades and remains basic in their use of disposition terms.

Linguistic items, such as *ceteris paribus*, normal or ideal conditions, can be viewed as belonging to a type of words further distinct from disposition vocabularies and conditionals. People realize that conditionals do not always correspond to the disposition ascriptions which they would like to retain in face of some unexpected counter-instances. These expressions thus serve to protect disposition ascriptions when simple conditionals fail. Contemporary philosophers of the sciences have an ongoing debate about the legitimacy of employing these hedging terms (Earman, Roberts & Smith (eds.), 2002). Some have tried to propose ways in which those terms can be used legitimately (e.g., Pietroski & Rey, 1995; Morreau, 1999). As far as I can see, all what these demonstrate is that terms like *ceteris paribus* belong to the newer part of our language, and that a distinct form of life pertains to it.

In short, there exist clear differences in the uses of disposition ascriptions, conditionals, and hedging terms. Hence, three distinct language games are in place. A semantic analysis such as a conditional account of disposition ascriptions tends to obscure this fact.

5. Conclusion

Martin (1994) once remarked that, although there is some link between a disposition ascription and a conditional, the link is clumsy and inexact. I concur, and have suggested that adopting a Wittgensteinian view of language may prove the same point. This approach leaves the ontology of dispositions untouched.

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