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Semantic Inferentialism from the Perspective of Question and Answer

The truth functional theory, the assertibility theory, and the use theory are often identified as the main theories of meaning. Semantic inferentialism can be deemed a kind of use theory. Semantic inferentialism, as I understand it here, is the theory proposed by Robert Brandom, who considered the meaning of an expression as the inferential relations by which it can be involved with other expressions.

Among these theories, the truth functional theory and the assertibility theory have defects in that they cannot effectively handle sentences without truth value. The use theory of meaning thus has an advantage over these alternatives in being able to explain the meaning of sentences or utterances without truth value. Semantic inferentialism can also explain such meaning because sentences or utterances without truth value, such as an order, a promise, or a declaration, have inferential relations with other sentences or utterances.

On the other hand, as I explain below, inferences could hold as a process for getting an answer to a question. Against this background, the aim of this study was to investigate and develop the following issues in semantic inferentialism by focusing on this association between an inferential relation and a question-answer relation. I will argue in the first section that a material inference holds as a process for getting an answer to a question and, in the second section that a perceptual judgment and a perception itself are answers to questions, and that a practical inference holds as a process for getting an answer to a question. Brandom pointed out that logical vocabulary and deontic vocabulary have the functions of making an implicit inferential commitment explicit. Adding to this, I would like to show that the question-answer relation also makes an implicit inferential commitment explicit.

1 The conception of semantic inferentialism
(1) The *material* inference
In semantic inferentialism, the meaning of a sentence is determined from the inferential relations associated with that sentence. The meanings of subsentential expressions are explained from the meaning of the sentence because a sentence or judgment is 'the fundamental unit of language'[1]. There are two kinds of inference that a sentence can have:

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[1]   Robert Brandom, *Articulating Reasons*, Harvard U.P., 2003, p. 149.

(i) an inference in which other sentences become its premises and the sentence follows as a consequence and (ii) an inference in which the sentence, in some cases with other sentences, becomes a premise and another sentence follows as a consequence of this. According to Brandom, the verification theory of meaning, the assertibility theory of meaning, and reliabilism are efforts to understand the meaning of expressions from the former inferential relations,[2] while, in contrast, classical pragmatism is an effort to explain it from the latter inferential relations.[3] However, from his perspective, both standpoints are insufficient. I will discuss this later in section (3).

The inference discussed here is not a formal inference in the usual sense because the usual formal inference holds without depending on the meaning of the terms it uses. The usual formal inference is a combination of sentences in which one or more sentences constitute premises, one sentence constitutes a consequence, and there is a logical deductive relation between premises and consequence, namely, the relation that if all premises are true then the consequence must be true. In typical valid formal inferences, even if we substitute any sentence or predicate for a sentence symbol or predicate symbol, respectively, the inference holds independently of their content. Therefore, by knowing the formal logical relation of inference, we cannot know the conceptual content of sentences or subsentential expressions.

The *material* inference

Accoring to semantic inferentialism we can know the meanings of sentences by knowing the inferential relations. Brandom calls such inferences "*material* inferences".

> The kind of inference whose correctnesses determine the conceptual contents of its premise and conclusions may be called, following Sellars, *material* inferences.[4]

The example offered by Brandom is the inference from "Pittsburgh is to the west of Princeton" that "Princeton is to the east of Pittsburgh." This is not a typical formal inference. The meanings of "west" and "east" are made explicit by this *material* inference. We understand the meanings of "west" and "east" by accepting the *material* inference. As to the meaning of a sentence, understanding the meaning of "Princeton is to the east of Pittsburgh" results from knowing that it holds as a consequence of the inference from the premise "Pittsburgh is to the west of Princeton." To understand the meaning of "Pittsburgh is to the west of Princeton" results from knowing that it leads us inferentially to "Princeton is to the

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2   *Ibid*., p. 64.
3   *Ibid.,* p. 66.
4   *Ibid.,* p. 52.

east of Pittsburgh." Then, how do we know that the *material* inference holds?

Correctness of material inference and validity of formal inference

It is difficult to explain clearly the correctness of a material inference. One reason for this is that we cannot use the validity of a formal inference when we explain the correctness of a material inference because, according to Brandom, the formal inference presupposes the material inference. He thinks that the valid formal inference is a special kind of correct material inference.

> [I]f one picks out theological (or aesthetic) vocabulary as privileged, then looking at which substitutions of non*theo*logical (or nonaesthetic) vocabulary for non*theo*logical (nonaesthetic) vocabulary preserve material goodness of inference will pick out inferences good in virtue of their *theo*logical (or aesthetic) form.[5]

We can apply this explanation to the above example of "west" and "east". We pick out the vocabulary of a *direction* like "west" or "east" as privileged, and then look at which substitution of other *geographical* names for the *geographical* names preserves the material goodness of the inference. For example, the inference "Tokyo is to the east of Osaka" from "Osaka is to the west of Tokyo" is a good inference. This will pick out the goodness of material inferences by virtue of the vocabulary of *direction*. The *validity* of a formal inference is the goodness of a *material* inference in the case of *logical* vocabulary. Therefore, the *validity* of formal inferences presupposes the *correctness* of *material* inferences. How can we judge whether the correctness remains through such substitutions?

Correctness of material inference and meaning of expressions

The deeper reason why the explanation of the correctness of a *material* inference is difficult is that a correct *material* inference is what we require for explanation of the meaning of a sentence. When we understand and use a concept, we must accept already, at least implicitly, some *material* inferences regarding the concept. Conversely, unless we accept material inferences involving a concept, we cannot understand and use the concept at all. To accept the correctness of a material inference involving a concept is the same as to accept the meaning of the concept. To learn how to use a word or a sentence is nothing else than to learn material inferences involving it. If we have any doubt about the use of it, we can talk about how to use it. Brandom says, "If there is a disagreement about the goodness of an inference, it is possible to say what the dispute is about and offer reasons one way or the other."[6] When

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5   *Ibid*., p. 55.
6   *Ibid*., p. 60.

we are not sure about whether a material inference is correct or not, we can make a game of giving and asking for reasons for the material inference. In this game, logical vocabulary such as "if …, then …" and "not" prove very useful in making the inferential commitment explicit and facilitate investigation of the correctness of the material inference. In addition, we perform questioning and answering in this game, that is, giving and asking for reasons. A question-answer relation would also make the implicit inferential commitment explicit. I explain this below.

(2) An inference presupposes a question-answer relation

Many sentences can follow logically as consequences of the same set of premises. It is not only logical relations that determine which sentence should be selected as a consequence. For example, think about the following inference:

> Socrates is a human.
> A human is mortal.
> ∴ Socrates is mortal.

From the two premises of the above inference, we can infer many other sentences, such as:

> An immortal is not Socrates.
> A mortal may be Socrates.

Why was "Socrates is mortal" selected as the consequence? An inference is not accomplished unless one sentence is selected as a consequence. We would deduce an inference in order to get an answer to a question. Therefore the selection of one sentence can be explained by asking for an answer to a question.[7] The inference is implicit in the process of asking for an answer to a question as follows.

> "Is Socrates mortal?"
> Socrates is a human.
> A human is mortal.
> ∴ Socrates is mortal.

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[7]   In 'Question and Inference' (*Begegnungen in Vergangenheit und Gegenwart*, Claudia Rammelt, Cornelia Schlarb, Egbert Schlarb (HG.), Lit Verlag Dr. W. Hopf Berlin, Juni, 2015, pp. 365-375), I explained that inference can hold as a process for getting an answer to a question.

The question-answer relation and the *material* inference

The above is also valid for the *material* inference. The *material* inference can be accomplished as part of the process of getting an answer to a question. For example, in the following *material* inference:

> "It is raining, therefore the streets will be wet,"

we can draw many other *material* inferences from this premise (the antecedent of the conditional), as follows.

> "It is raining, therefore the roof will be wet."
> "It is raining, therefore my car will be wet."

Here, why was "the street will be wet" selected as the consequence? This could be explained by considering the material inference as involving a process of getting an answer to a question. In order to answer a particular question, the sentence was selected as the consequence. This is similarly valid in the case of the *practical* material inference, which I will discuss later.

Question-answer relation and the *non-monotonic* inference

Such a material inference might be understood as an enthymeme and as a monotonic inference, but Brandom considers it as a *non-monotonic* inference: "[M]aterial inference is not in general monotonic—even on the theoretical side."[8]

The *non-monotonic* inference is an inference whose consequence can change by adding a new premise. The monotonic inference is an inference whose consequence does not change by adding any new premise. In the monotonic inference, the set of premises that is sufficient to get a consequence is given explicitly or, if it is an enthymeme, implicitly. In the *non-monotonic* inference, the set of premises that is sufficient to get a consequence is not given; therefore, the consequence could change by adding a new premise.

As I explained above, many sentences can be inferred from the same premises in the monotonic inference, which is also valid in the *non-monotonic* inference. The difference between them is that, in the case of a monotonic inference, if a sentence is inferred as a consequence from a set of premises, then the negation of the sentence cannot be inferred as a consequence by adding any new premise; however, in the case of a *non-monotonic* inference,

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8   Robert Brandom, *Articulating Reasons*, Harvard U.P., 2003, p. 87.

even if one sentence is inferred as a consequence from a set of premises, then the negation of it can be inferred as a consequence by adding a new premise. This means that the truth of a consequence cannot be proven only by the given premises in the *non-monotonic* sentence. Nevertheless, we can claim a sentence as a consequence from the given premises. We can explain it by assuming that the *non-monotonic* inference is made as part of the process of getting an answer to a question.

(3) Criticism of the unidirectional inferential theory of meaning

As I mentioned above, Brandom differentiated two kinds of inferential relation that make the meaning of expressions explicit, namely, the case where the sentence in question becomes a consequence of the inference and the case where the sentence in question becomes a premise of the inference. According to Brandom, the verification theory of meaning, the assertibility theory of meaning, and reliabilism explain the meaning of expressions only from the former inferential relations; in contrast, classical pragmatism explains it only from the latter inferential relations. He claims that, to understand the meaning of a sentence, we need to know both inferential relations. Therefore, both types of unidirectional theory of meaning are insufficient. Here, I would like to investigate whether this criticism is valid.

First, Brandom criticizes the assertibility theory of meaning with the following counter-example. According to him, the statements, "I foresee that I will write a book about Hegel" and "I will write a book about Hegel" have the same assertibility conditions. However, they do not have the same meaning because, if they were synonymous, then we could substitute "I foresee that I will write a book about Hegel" into the antecedent of "If I will write a book about Hegel, I will write a book about Hegel." However, this substitution is impossible because "If I foresee that I will write a book about Hegel, I will write a book about Hegel" is incorrect. This is very interesting as it shows us that sentences with the same assertibility can have different logical consequences and can have different meanings.

Let us express "I will write a book about Hegel" as A and "I foresee that I will write a book about Hegel" as B. Brandom says that A and B have the same assertibility conditions. He goes on to say, however, that "If A, A" holds, but "If B, A" does not. Therefore, A results from A, but A does not result from B. The sentences that result inferentially from A and the sentences that result inferentially from B are different. This seems to me to be correct. However "If B, B" holds, we can also say that B results from B, but A does not result from B. Then, we can say, simultaneously, that A and B do not have the same assertibility conditions. If so, this example would be inappropriate for the argument Brandom makes.

On the other hand, Brandom criticizes classical pragmatism as follows.

> Pragmatists of the classical sort, by contrast, make the converse mistake of identifying propositional contexts exclusively with the consequences of endorsing a claim, looking downstream to the claim's role as a premise in practical reasoning and ignoring its proper antecedents upstream.[9]

He offers an example of this.

> Being classified as AWOL does have the consequence that one is liable to be arrested, but the specific circumstances under which one acquires that liability are equally essential to the concept.[10]

What he claims here is that the claim that someone is AWOL could have many inferences, which leads us to the claim as a consequence. Therefore, one cannot know the assertibility conditions of a sentence only by knowing only the consequences that follow inferentially from it.

However, if one were to be punished for being AWOL, the punishment would vary depending on the situation in which the individual went AWOL; therefore, the claim that an individual went AWOL could have various consequences. Thus, this would also not be a persuasive example supporting Brandom's argument.

To investigate this issue, I will call the inference that has a sentence in question as a consequence an "*upstream inference*", the set of all upstream inferences "*upstream inference relations*", the inference that has a sentence in question as a premise a "*downstream inference*", and the set of all downstream inferences "*downstream inference relations*". In semantic inferentialism, that two sentences have different meanings reflects that they have different inferential relations. When Brandom criticizes the unidirectional inferential theory of meaning, he should raise the following two points.

> (a) Two sentences with the same upstream inferential relations can have different downstream inferential relations.
> (b) Two sentences with the same downstream inferential relations can have different upstream inferential relations.

First I will investigate (a) and (b) in the classical logic. The upstream inferential relation of p can be rewritten into the following downstream inferential relation of $\neg p$.

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[9]   *Ibid.,* p. 66.
[10] *Ibid.,* p. 66.

$$\frac{s, \ t \Rightarrow p}{\neg p \ \ t \Rightarrow \neg s}$$

The downstream inferential relation of p can be rewritten into the following upstream inferential relation of $\neg p$.

$$\frac{p, \ q \Rightarrow r}{\neg r, \ q \Rightarrow \neg p}$$

An investigation of (a) two sentences with the same upstream inferential relations can have different downstream inferential relations

Hypothesize that p and q have the same upstream inferential relations and A is a set of sentences; then, the following holds.

For all A $(A \Rightarrow p$ iff $A \Rightarrow q)$

In addition, hypothesize that p and q have the following different downstream inferential relations and B and C are sets of sentences.

$p, \ B \Rightarrow t$
$q, \ B \nRightarrow t$
$p, \ C \nRightarrow w$
$q, \ C \Rightarrow w$

Hypothesize here that there is no downstream inference of p that has w as a consequence and no downstream inference of q that has t as a consequence; then, the following holds.

(1) $\neg t, \ B \Rightarrow \neg p$
(2) $\neg w, \ C \Rightarrow \neg q$

From these two sequents, the following inferences hold.

(3) $\neg t, \ \neg w, \ B, \ C \Rightarrow \neg p \wedge \neg q$ [from (1) and (2)]
(4) $\neg (\neg p \wedge \neg q) \neg t, \ B, \ C \Rightarrow \neg \neg w$ [from (3)]
(5) $p \vee q, \ \neg t, \ B, \ C \Rightarrow \neg \neg w$ [from (4) by De Morgan]
(6) $p, \ \neg t, \ B, \ C \Rightarrow \neg \neg w$ [from (5)]

(7) *p*, ¬*t*, B, C $\Rightarrow$ *w*   [from (6) by elimination of double negation]

The last sequent means that there is a downstream inference of *p* that has *w* as a consequence. This contradicts the hypothesis. Thus, (a) does not hold.

Therefore, if we accept classical logic and the elimination of double negation, any two sentences with the same upstream inferential relation never have different downstream inferential relations. However, if we do not accept classical logic then (a) can hold. In order to claim (a), the rejection of classical logic is essential.

An investigation of (b) two sentences with the same downstream inferential relations can have different upstream inferential relations

Hypothesize that *p* and *q* have the same downstream inferential relation and different inferential relations and A, B, and C are sets of sentences; then, the following holds.

(1) For all A and B (*p*, A $\Rightarrow$ B   iff   *q*, A $\Rightarrow$ B)

Hypothesize here that B $\Rightarrow$ *p* and B $\nRightarrow$ *q*, and B consists of a sentence *b* and a set of sentences C; then, the following sequences hold.

(2) *b*, C $\Rightarrow$ *p*
(3) *b*, C $\nRightarrow$ *q*

If we hypothesize (3), then either the following (4) or (5) would hold.

(4) *b*, C $\Rightarrow$ ¬*q*
(5) *b*, C $\nRightarrow$ ¬*q*

At first I would like to show that hypothesizing (4) leads us into a contradiction. The following sequents hold from (4).

(6) ¬¬*q*, C $\Rightarrow$ ¬*b*   [from (4)]
(7) *q*, C $\Rightarrow$ ¬*b*   [from (6) by elimination of double negation]
(8) *p*, C $\Rightarrow$ ¬*b*   [from (1) and (7)]
(9) ¬¬*b*, C $\Rightarrow$ ¬*p*   [from (8)]
(10) *b*, C $\Rightarrow$ ¬*p*   [from (9) by elimination of double negation]

Here, (10) and (2) are contradictory; thus, (4) contradicts hypotheses (1) and (2). Then, we will see whether the hypothesizing (5) leads us into a contradiction.

$$(11)\ \neg\neg q,\ C \nRightarrow \neg b \qquad \text{[from (5)]}$$
$$(12)\ q,\ C \nRightarrow \neg b \qquad \text{[from (11) by elimination of double negation]}$$
$$(13)\ p,\ C \nRightarrow \neg b \qquad \text{[from (1), (12)]}$$
$$(14)\ \neg\neg b,\ C \nRightarrow \neg p \qquad \text{[from (13)]}$$
$$(15)\ b,\ C \nRightarrow \neg p \qquad \text{[from (14) by elimination of double negation]}$$

Here, (15) does not contradicts (2); therefore (b) might be possible in the classical formal logic.

A material inference is a kind of *non-monotonic* inference, which is characterized by a much looser relation between premises and consequence. Therefore, if (a) and (b) can hold in the non-classical formal logic, (a) and (b) can hold in the *non-monotonic* inferences. Thus, points (a) and (b), above, hold with respect to material inferences.[11]

2 Perception and action from the perspective of question and answer
(1) Semantics of perceptual report

According to Donald Davidson, perception arises via the causal relation from the environment and a perceptual belief arises via the causal relation from perception. However, he thinks that the causal relation between perception and perceptual belief cannot justify the perceptual belief. He tried to "show that all that counts as evidence or justification for a belief must come from the same totality of belief to which it belongs."[12]

Brandom might conceptualize the relation between a perception and a perceptual belief in a similar way to Davidson. Brandom says that some animals can react to objects in a reliable differential way. Furthermore, some animals such as parrots can talk about objects in a reliable differential way. However, such a reliable differential relation is not sufficient to justify the perceptual belief. According to him, the justification of the perceptual report is conducted by "the game of giving and asking for reasons". To introduce a perceptual report

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[11] We can think several interpretations of the part that two sentences can have different downstream inferential relations in (a) and the part that two sentences can have different upstream inferential relations in (b). The logical expressions of them vary on those interpretations. In order to show it I took the different ways of expression in (a) and (b) in this section. Further investigation on this point would be required. An investigation of (a) and (b) from the perspective of question and answer is also required.

[12] Donald Davidson, 'A Coherence Theory of Truth and Knowledge', in *Subjective Intersubjective Objective*, Oxford, 2001, p. 153.

into the game, it is necessary for the perceptual report to enter into an inferential relation with other sentences. Then, as perceptual report is *noninferential,* it cannot be a consequence of an inference, it can be only a premise. Thus, only the downstream inferential relations of a perceptual judgment seems to constitute the meaning of the perceptual judgment and the perceptual judgment would be justified by the consistency in the downstream inferential relations.

Question and perceptual judgment

However, we could think that the perceptual judgment does not arise simply causally from a perception but, instead, arises as an answer to a question in many cases. If a perceptual judgment arises only causally, then we will always automatically have the perceptual judgment, for example, "This is red," whenever we see something red. However, this is not the case. Most of the cases in which a perceptual judgment arises are cases when we try to answer a question. We get a perceptual judgment by investigating a perception to obtain an answer to a question.

Question, inference, and perceptual judgment

If a perceptual judgment is said to be meaningful as an answer to a question, we could say that such a perceptual judgment arises, in some sense, as a consequence of an inference. In general, when we answer a question, we accept the semantic presuppositions of the question. Therefore, when the perceptual judgment arises as an answer to a question, the perceptual judgment also accepts the semantic presuppositions of the question.[13] For example, the question, "What color is the flower?" has various semantic presuppositions, including:

> "The referent of 'the flower' exists."
> "The referent of 'the flower' is a flower."
> "The flower is some color."

These semantic presuppositions of *a question* can be considered as the presuppositions of *an answer* to the question, for example, "This is red." In this context, we could think of the following inference as a process to the question.

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[13] In 'Transcendental Arguments Based on Question-Answer Contradictions' in *Transcendental Inquiry: Its History, Methods and Critiques*, ed. by H. Kim and S. Haelzel, Palgrave Macmillan, 2016 (in press), I argued the presupposition of a question.

"What color is the flower?"

The flower is some color.

The color is this (a perception).

This (a perception) is red.

∴ The flower is red.

The perceptual judgment, "The flower is red," has arisen not only via a perception, but also via other sentences, as it serves as an answer to the question and as a consequence of the inference.

An anticipated objection

However, we would not utter a perceptual judgment such as, "Oh, delicious!" as an answer to some question. In such cases, we seem to utter such an expression because the perception was very different from our expectations. The surprise was caused by the gap between actual perception and expected perception. An animal can of course be surprised, so the surprise does not always presuppose a linguistic articulation. However, if we are asked by others or by ourselves, "Is it really delicious?" in such situations, then we can answer with this statement. If we cannot answer such a question, we do not know the meaning of "Delicious!" Therefore, the perceptual report in such a case is meaningful only when we can answer or reconfirm such a perceptual report as an answer to a question. When we touch something very cold and say, "Hot!" instinctively, we immediately reassess this as, "No, this is cold." When we consider this case, we could say that a perceptual utterance performed instinctively is not yet a justified perceptual judgment, unless it is reconfirmed by a question and answer.

Question and perception

Returning from a perceptual judgment to a perception itself, I will reconsider the explanation that a perception arises only causally. In the case of careful observations, such an explanation of a perception is insufficient. When we ask, "What does vegemite taste of?" we want to know the taste, namely, we do not want to obtain a perceptual judgment of the taste, but the taste itself. The questioner wants to taste the vegemite. If the questioner tastes the vegemite, he/she will achieve his/her aim. The answer would be a kind of knowledge, but not *propositional* knowledge.

The above question does not seek a perceptual judgment of the object, but *the perception itself.* The answer to the question would be an identity sentence: "The taste of the vegemite = this (*the perception itself of the vegemite*)" (the referent of the right side is not a concept but

the perception itself).[14] When we accept the question, we accept the semantic presuppositions of it, such as that the object is vegemite and that the vegemite has a taste, and the answer also presupposes these presuppositions. Therefore, this answer could be understood as a consequence of an inference.

The perception that is made carefully to answer a question is already articulated linguistically. If not, perceptions are the same as perceptions made by animals, which are not articulated linguistically. However, the perceptions that are made not carefully but habitually would also be articulated linguistically because they are recognized as "perceptions as usual".

We can think about such perceptions articulated linguistically. For example, is a concept such as "bitter" already involved in *the perception* implicitly? Does the perceptual judgment only make it explicit? Or does the concept "bitter" construct *the taste* linguistically in the perceptual judgment? Both would presumably hold. As J. L. Austin has pointed out[15], just as we cannot separate the definition of the word "elephant" and the definition of the object "elephant", the understanding of the word "bitter" and the identification of *a bitter taste* can also not be separated. We learn to associate the word "bitter" with various gustatory sensations during the learning of the word. If *the taste* in this case is similar to *the bitter taste* with which we associated the word "bitter" during the learning of the word, we call it "bitter". This holds to the extent that perceptions are articulated by concepts, that is, constructed by concepts. On the other hand, when we have already learned a number of words about gustatory sensations, such sensations have already been articulated conceptually. This holds to the extent that the perceptual judgments only make the tacit concepts explicit.

(2) Relation between action and judgment

A consequence of a practical inference is said to be a sentence about an action in some case and to be an action itself in some case. How can we understand the cause of difference of the two cases? I will think this problem here.

Practical inference and practical knowledge

Before talking about the practical inference I would like to confirm the difference of the practical knowledge Anscombe explained[16] and the consequence of the practical inference.

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[14] In general, an answer to a question can be rephrased as an identity sentence. I explained it in 'Identity Sentences as Answers to Question' in *Philosophia Osaka*, No. 7, Published by Philosophy and History of Philosophy / Studies on Modern Thought and Culture Division of Studies on Cultural Forms, Graduate School of Letters, Osaka University, 2012, pp. 79-94: http://ir.library.osaka-u.ac.jp/dspace/bitstream/11094/23292/1/po_07-079.pdf.

[15] J. L. Austin, 'Truth', in *Philosophical Papers*, Oxford U.P. 1979 (The third edition), p. 124.

[16] G. E. M. Anscombe, *Intention,* Oxford U.P., 1957.

The practical knowledge is an answer to a question: "What are you doing now?" It takes the form, "I am now doing …" and describes the action that the answerer is doing at that time. This knowledge is said to be gained *immediately*; thus, it has no *upstream inferential relations*, but only *downstream* ones. However, as practical knowledge is an answer to a question, it must accept the presuppositions of the question. Thus, we can understand it also as a consequence of the presuppositions and as having *upstream inferential relations*. Of course, these presuppositions would not be sufficient to decide the consequence, and this inference differs from practical inferences.

Explanation of the practical inference

Brandom raised the following three types of practical material inference.

(α) Only opening my umbrella will keep me dry, so I shall open my umbrella.

(β) I am a bank employee going to work, so I shall wear a necktie.

(γ) Repeating the gossip would harm someone, to no purpose, so I shall not repeat the gossip.

These examples represent prudential (or instrumental), institutional, and unconditional cases, respectively, but this list is not intended to be exhaustive.[17] Nonetheless, Brandom thinks that an act is conceptual and the concept is normative, so the practical inference is always normative. He thinks that these practical inferences are not enthymemes. If these were enthymemes, then they would be monotonic. However, he considers them as default inferences.

Moreover, the practical inferences have been understood as the following two types.

(1)   I shall do X.

The only one measure of doing X is doing Y.

∴ I shall do Y.

This type of practical inference necessitates a certain action. In this inference, if I do not do Y, I cannot do X. We could call this a "necessarily conditioned practical inference."

(2)   I shall do X.

If I do Y, then I can do X.

∴ I shall do Y.

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[17] Robert Brandom, *Articulating Reasons*, Harvard U.P., 2003, p. 91.

This type of practical inference cannot prove the necessity of a certain action Y. It shows that the action is one possible means of doing X. Therefore, we could call it a "sufficiently conditioned practical inference". Von Wright considered type (1) and Anscombe considered type (2).[18] In many cases, we supposedly make the practical inferences in type (2). The practical material inferences whose examples Brandom raised belong to type (2). A practical material inference is a *non-monotonic* inference and it can have the negation of its consequence when a new premise is added. In type (2) practical inferences, it might be better to do another action Z in order to do X when a new premise is added. Doing Z is the negation of doing Y. Therefore, a type (2) practical inference is the *non-monotonic* inference.

Relation between practical inference and a question

As stated above, we have many possible conclusions from the same set of premises in monotonic theoretical inferences and more possible conclusions in *non-monotonic* theoretical inferences. I suppose that most practical inferences are *non-monotonic* inferences. In a practical inference, we cannot select one consequence logically, but are nevertheless always selecting an act and doing it. What makes this selection or decision possible is the effort to answer a question. I will explain this using the above example.

(α) Only opening my umbrella will keep me dry, so I shall open my umbrella.

In this practical material inference, "Only opening my umbrella will keep me dry," is a premise and, "I shall open my umbrella," is a consequence. We can have other sentences such as, "I shall buy an umbrella," or, "I won't go out since I have no umbrella," as its consequence. The practical inference can also hold as a process to get an answer to a question.

A question whose answer is *knowing how*

An individual asking the question, "How can I ride a bicycle?" wants to ride a bicycle and wants an answer about how to do this. Suppose that his/her friend showed him/her an example of riding a bicycle and he/she became able to ride a bicycle by imitating this. In this case, the aim of asking the question has been accomplished. The questioner seeks to know how to ride a bicycle and this is a kind of *knowing how* and not *propositional* knowledge. Even if someone had given the questioner detailed *propositional* knowledge about how to ride a bicycle, the aim of the question would not have been accomplished. We can rephrase

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[18] Cf. E. Anscombe, *Intention*, Cambridge, 1957, 2nd version 1967; E. Anscombe, Practical Inference, in R. Hursthouse, G. Lawrence, and W. Quinn (eds.), *Virtues and Reasons*, I–34, Oxford, 1989; von Wright, On So-Called Practical Inference, *Acta Sociologica* 15, 39-53; and J. Searle, *Rationality in Action*, Cambridge, Chap. 8.

the question, "How can I do X?" into, "What is the way to do X?" and the answer to the latter question would take the form, "The way to do X = this (*knowing how A*)" (the referent of the right side is not a concept, but *knowing how itself*). This answer could be understood as a consequence of an inference because the above question has presuppositions and they simultaneously become the presupposition of this answer.

A question whose answer is *an action itself*

Getting to know *how to do A* comes into existence in *doing A*. Both arise simultaneously. When an answer to the question, "How can I do X?" is *knowing how*, this question calls for *knowing how* and simultaneously *doing X*. This question can be rephrased into, "What is *knowing how to do X*?" and the answer to it is, "The *knowing how to do X* = this (*Action A*)" (the referent of the right side is not a concept, but *an action itself*). This answer also could be understood as a consequence of an inference because the presuppositions of the above question become simultaneously the presupposition of the second answer. A practical question could ask for the performance of an action as its answer, such as in this case; then, the consequence of the practical inference for getting an answer to the question could be *an action itself*.

At the beginning of section (2), I mentioned that there are two cases: a consequence of a practical inference is a sentence in one case and it is an action itself in the other case. We can now understand that what kind of consequence a practical inference has depends whether a practical question aims to get a sentence (*propositional* knowledge), *knowing how*, or *an action itself* as an answer.

Conclusion: Relations of questions, inferences, and meanings

The aim of this work was to investigate semantic inferentialism by focusing on the fact that an inference can hold as a process for getting an answer to a question. I found that this relation between an inference and a question is more significant in *material* inference (*non-monotonic* inference) than in monotonic inference, in the first section. In the second section, I pointed out that a perceptual judgment, *a perception itself*, *knowing how*, and *an action itself* can be consequences of inferences. Through these analyses, I could also determine that the question-answer relation makes the implicit inferential commitment *explicit*.

Semantic inferentialism claims:

(1) The meaning of a sentence is determined by inferential relations.

Here, we used the following relation between an inference and a question.

(2) An inference holds as a process of answering a question.

In this paper, I showed that (1) and (2) are closely related. Here, another thesis can be added. Collingwood claimed the following thesis on the relation between an utterance and a question.

(3) The meaning of an utterance is determined in its relation to the question to which the utterance is an answer.[19]

Each thesis might be proved independently, but these are closely related to each other. We could explain (1) from (2) and (3), (2) from (1) and (3), and (3) from (1) and (2). I would like to develop semantic inferentialism further by means of (2) and (3).

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[19] I tried to prove this thesis in 'A Proof of Collingwood's Thesis' in *Philosophia Osaka*, No. 4, Published by Philosophy and History of Philosophy / Studies on Modern Thought and Culture Division of Studies on Cultural Forms, Graduate School of Letters, Osaka University, 2009, pp. 69-83: http://ir.library.osaka-u.ac.jp/dspace/bitstream/11094/10747/1/po_04_069.pdf.