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Vera A. Shumilina

ABDUCTIVE THEORY OF MEANING

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*Vera A. Shumilina*¹

ABDUCTIVE THEORY OF MEANING²

The paper suggests the abductive theory of meaning as a project based on the theory of abduction (Ch. S. Peirce), pragmatics (P. Grice) and normative inferentialism (R. Brandom). The proposed theory addresses the problem of emergence of new meanings, dynamics of meaning, and development of capacity to understand meaning. In place of question of nature of meaning abductive theory of meaning offers the model of meaning transfer with special attention to commitments of speakers and hearers.

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Keywords: abduction, meaning, Peirce, Grice, Brandom.

¹National Research University Higher School of Economics. International Laboratory for Logic, Linguistics and Formal philosophy. Research assistant; E-mail: vshumilina@hse.ru

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Introduction

The aim of this paper is to develop the draft of the abductive theory of meaning in philosophy of language.

The basis for this theory can be retrieved from the theory of abduction founded by Ch. S. Peirce, the theory of meaning elaborated by H. P. Grice and his vision of pragmatics, the R. Brandom's normative inferentialism in semantics and pragmatics.

Although the term "abductive" is rarely ascribed to a theory of meaning, especially to the theories of Grice and Brandom, it should be noticed that the major justification for this label is inferential aspect of meaning in accounts of three authors.

Despite the time gap which divides authors (the dates of birth of Peirce, Grice and Brandom are 1839, 1913, 1950, respectively) and associated discrepancy between the description languages, some seminal principles are shared, the threads of thought of Peirce, Grice and Brandom often coincide in addressing key issues. First of all, all the three scholars base the ordinary language priority over ideal language analysis of meaning. Moreover, the emphasis on the complex nature of interactions of speaker and hearer can be mentioned. Anyway, the significance of the interconnections will be evidenced in the part on historical background further.

So, the key notions of abductive theory of meaning that can be identified tentatively are focus on inferential character of meaning, dynamics of meaning in interaction of agents and possible ambiguities of meaning typical of ordinary language practice.

Certainly, to propose an abductive theory of meaning, it is necessary to clarify the definition of abduction. So, it should be stated honestly at the outset that there is no final version of the definition of abduction in writings of Peirce, the prominent author of the theory of abduction³, aside from more than forty years of working on this theme, but to a larger extent owing to the fact that abduction signifies class⁴ of inferences.

³ Although Peirce thought that the origin of abduction is in Aristotle's Prior Analytics II.25 ("By reduction we mean an argument in which the first term clearly belongs to the middle, but the relation of the middle to the last term is uncertain though equally or more probable than the conclusion; or again an argument in which the terms intermediate between the last term and the middle are few. For in any of these cases it turns out that we approach more nearly to knowledge.").

In Peirce words: "In the excessively abridged and obscure style of the Analytics he [Aristotle] begins as follows: Abduction, *apaōgē*, is when it is well known that the major term is true of the middle, and that the middle is true of the last is not known, yet is antecedently more credible than the conclusion." He should have added "which conclusion we find to be a fact." (Peirce, CP 7.249) *Here and after the reference to the works of Ch. S. Peirce is given according to the special notation, please look for the reference list.*

⁴ "Abduction <...> is any reasoning of a large class of which the provisional adoption of an explanatory hypothesis is the type" (Peirce, 1906, CP 4.541).

So, the list of reasonable definitions of abduction in the context of philosophy of language is presented:

- *creative meaning, abduction as plausible inference (autonomous mode of reasoning)* generation of explanatory hypothesis⁵ for some surprising evidence, inference from result, inference a posteriori⁶ with very weak degree of certainty (modality “may be”)⁷ which are often formulated as questions⁸
- *creative meaning, abduction as concept formation*⁹
- *selective meaning, abduction as preference of the likeliest hypotheses, the most plausible explanation in the context, abduction as a search strategy*¹⁰ inference to the best explanation (IBE)
- *abduction as collection of common beliefs (hypotheses) concerning the nature of reality hypotheses with existential commitments on existence of reality, mind, independence of reality from mind and lots of other hypotheses constructing human vision of life*¹¹
- *abduction as a natural capacity to make inferences with tendency to be true*¹² the abductive capacity is the result of human evolution and is particularly human adaptation
- *abduction as inquiry the success of which is determined by the principles which are not only the result of the inquiry, but the pre-given condition*¹³

⁵(Peirce, 1903, CP 5.171)

⁶“Result: The surprising fact C is observed.

Rule: If A were true, C would be a matter of course.

Case: Hence, there is reason to suspect that A is true.” (Peirce, 1903, CP 5.189)

“Deduction or inference a priori, Induction or inference à particularis, Hypothesis or inference a posteriori” (Peirce, 1965, W 1.267).

“There are but three modes of inference, deduction, induction and abduction, a fourth, analogy, merely combines the principles of the other three” (Peirce, 1903, HL 282).

“All valid reasoning is either deductive, inductive, or hypothetic” (Peirce, 1868, CP 5.274).

⁷“abduction merely suggests that something may be” (Peirce, 1903, CP 5.171).

⁸“the interrogative suggestions of retrodution” (Peirce, 1905, CP 2.758). Peirce also called abduction as presumption, Hypothesis, Retrodution at different stages of his work.

⁹“abduction <...> covers all the operations by which theories and conceptions are engendered” (Peirce, 1903, CP 5.590).

¹⁰“the process of choosing a hypothesis” (Peirce, 1901, CP 7.219).

¹¹Actually, metaphysical views of Ch. S. Peirce were very unusual from the commonsensical point of view. Anyway, the role of abduction in supporting principally improvable, but inductively probable, assumptions on the nature of reality at different levels from the principle of uniformity of nature up to the absence of direct influence of aliens on the loss of belongings in a house is irreplaceable.

“Mind is <...> connected with all matter. <...> It would be a mistake to conceive of the psychical and the physical aspects of matter as two aspects absolutely distinct. Viewing a thing from the outside <...> it appears as matter. Viewing it from inside <...> it appears as consciousness” (Peirce, 1892, CP 6.268).

“We have direct experience of things in themselves. Nothing can be more completely false than that we can experience only our own ideas” (Peirce, 1903, CP 6.95).

¹²“a natural adaptation to imagining correct theories of some kind” (Peirce, 1903, CP 5.591)

¹³ “Those instincts had some tendency to be true, because they had been formed under the influence of the very laws that we were investigating” (Peirce, 1898, CP 7.508).

“The only hope of retroductive reasoning ever reaching the truth is that there may be some natural tendency towards agreement between the ideas which suggest themselves to the human mind and those which are concerned in the laws of nature” (Peirce, 1896, CP 1.81).

The deliberate omission of this list is mentions of abduction in the Peirce's theory of signs and Phaneroscopy because of complicated theory of three categories and multitude of differences between conventional semiotics and Peircean. Nevertheless, comments on categories will be given later in the text where necessary.

Notwithstanding the range of valid values of abduction, the noticeable restriction on the usage of abduction in theories of meaning is connected with the fact that in strict sense abduction should be considered in scientific contexts of usage¹⁴. In Peirce's late reflections, abduction is the first stage of scientific inquiry and is substantially linked with the element of surprise (in experimental practice, for example). The crucial significance of abduction relates to its mission of creation of new knowledge (abduction is the only inference that introduces new ideas (Peirce, 1902, CP 2.96)). However, there are attempts to examine inferentialist theories of meaning in philosophy of language in terms of scientific ampliative (inductive and abductive) reasoning (de Prado Salas et al., 2017).

Anyway, the decisive question to the abductive theory of meaning is the indication of the need for this theory in case it really can be observed. From the point of view of history of philosophy the lacuna in consistency of representations of development of Peirce's ideas on the nature of meaning will be filled in. From the broader perspective of theories of meaning the demand for abductive theory of meaning consists in the explanation of acquisition of new meanings in communicative practice, mutual influence of implicit and explicit meanings, high velocity and relative ease of natural language processing by human agents, understanding meaning in not truth preserving contexts (irony, tropes, uncooperative contexts).

Of course, abduction does not explain the prosperity and creative potential of natural language, because the compositionality principle mostly does. But according to the criteria of relevant theories in philosophy of science the proposed theory should explain all the facts that the previous did and predict and/or explain new phenomena. The challenge can be solved by hypothesizing on prospective theory of meaning uniting existing ones or by switching the frame. To pursue the second option, the principle of compositionality can be treated as an explanatory heuristic in abductive explanatory strategy if abduction is deemed to be a search strategy aimed at finding the best explanation.

¹⁴“We begin, and must begin, almost every inquiry by making a guess” (Peirce, 1901, MS 692.29).

“Hypotheses give us our facts. Induction extends our knowledge. Deduction makes it distinct” (Peirce, 1865, W 1.283).

“Abduction seeks a theory; induction seeks for facts” (Peirce, 1901, CP 7.218).

“Induction is the experimental testing of a theory” (Peirce, 1903, CP 5.145).

“abduction <...> furnishes the reasoner with the problematic theory which induction verifies” (Peirce, 1901, CP 2.776).

“Induction consists in starting from a theory, deducting from it predictions of phenomena, and observing those phenomena in order to see how nearly they agree with the theory” (Peirce, 1903, CP 5.170).

“the end of abduction is that the deductive consequences of it may be tested by induction” (Peirce, 1903, HL 283).

At any rate, the abductive theory of meaning is now underway. So, the order of consideration will be the following. First of all, the historical background will be presented in order to keep track from Peirce to Grice and then to Brandom. Then, semantic and pragmatic accounts of abductive meaning will be under scrutiny. To wit, the semantic indicator of abductive meaning fixed in the grammar structures will be regarded as the most apparent evidence of presence of abductive component of meaning. Moreover, the case of conversational implicatures will be analyzed as a great example of cogent usage of abduction as inference to the best explanation in theories of meaning. Lastly, inferential semantics and pragmatics consisting of chains of moves with entailments and commitments will be analyzed as abductive inferential practice. Finally, the record of accomplishments of the abductive theory of meaning will be conducted.

1

To set up a line of succession between Peirce, Grice and Brandom regarding the question of meaning, two obvious links can be distinguished. On the one hand, the Grice's account of pragmatics is inspired by the Peirce's. On the other hand, Brandom belongs to a neo-pragmatist tradition, while Peirce is one of the founders of American pragmatism.

As for the bonds between Peirce and Grice, the impact of Peirce on Grice is proved by textological and philosophical arguments (Pietarinen, 2004; Pietarinen and Bellucci, 2016). Although Grice criticized the Peircean theory of signs a lot in his notes, pragmatics as it is known today as a Gricean project is to a great extent based on such concepts as normative rationality, cooperation, common ground, common knowledge, conversational strategies, and presuppositions which can be discovered in the Peirce's philosophy of language. The connections between Peirce and Brandom are the object of interest in research literature (Champagne, 2016; Keeler, 2004; Legg, 2008). The focus of the further analysis will be on commonalities of three projects and translation of semiotic concepts of Peirce in language of Grice and Brandom.

For Peirce the unit of communicative interaction is assertion, but the assertion as a linguistic action is just a sign of its content, proposition. For Brandom utterances of sentences, speech acts are moves in the language game, but their content is also proposition. For Grice we also express propositions.

The notion of assertion in Peirce's theory presupposes a lot of consequences for the theory of meaning owing to the idea of energy embedded: "Every assertion has a degree of energy" (cited by (Pietarinen, 2004, p. 296)). Firstly, according to Peirce, assertion switches the

hearer on the network of commitments verifying the stated proposition. Energy means actions of the recipient (commitments to test, trust and pass on the assertion). In terms of Brandom, the recipient applies practical reason in order to check the meaning in assertion and undertake responsibility for possible future transfer of meaning. Secondly, energy specifies the network of meanings especially the scope of references to common ground or special models, assumptions. Thirdly, energy can be reinterpreted in terms of utilities attributed to each assertion. So, the dialogue can be analyzed in terms of scores (in Brandom's terms) and strategies (cooperative as in Gricean pragmatics and not). Game-theoretic implications of Peirce's assignment of energy to assertion have the further analogy with modern discourse on meaning that is normative control. The well-known maxims of Grice, the deontic statuses of Brandom can be rooted in the Peirce's concept of habit.

Habits in Peirce's terms are treated as strategies. Habits guide the language usage of speakers and make it more controllable and rational during the time. Habits are the mark of stabilization. When Peirce analyses development of mind in his Phaneroscopy, he suggests three Categories: Firstness, Secondness, and Thirdness. The first category is often associated with abduction and its attributes are presentness, sensation, chance. Keeping in mind that abduction is sometimes perceived as inverse deduction, attributes of Thirdness, deduction, can be enumerated. They are law and tendency to make laws and take habits, drawing inferences (The reference to Categories and their attributes is given according to (Potschka, 2018, p.66)). Thus, habits are norms and laws, which are acquired not only as rules of cooperative and polite conversation, preserving honesty in making true propositions, but more basically, capacity to make inferences in language practice. In terms of Brandom, the development of habits is the development of theoretical reason to make all the possible conclusions from the said. The other significant feature of habits is their accumulation and advancement¹⁵. Therefore, the understanding of meaning makes progress over time.

Habits also control the basis of effective communication, namely common ground. Habits encompass the knowledge of common sense, ordinary representations of human life experience, common expectations, beliefs etc. But also habits cover the logical structure of common knowledge, specifically the infinite conjunction of "knowledge of agent A of knowing by agent B that agent A knows..." the facts/beliefs/presuppositions of common knowledge. To save the energy, the habit of knowing is represented in minds precisely as state, not action.

¹⁵ "At present, the course of events is approximately determined by law. In the past that approximation was less perfect, in the future it will be more perfect. All things have a tendency to take habits. For atoms and their parts, molecules and groups of molecules, and in short for every conceivable real object, there is a greater probability of acting as on a former like occasion than otherwise" (Peirce, 1887, CP 1.409).

Curiously, the information update is closely connected to the process of refinement of habits. The progress of knowledge modifies the basis of familiar knowledge and the manner of assessment of facts and utterances as surprising or not and therefore, the assessment of meaning.

Starting from “surprising facts” of more or less random meaning ascription in first steps of natural language acquisition and then adopting the networks of inferential connections and eventually the norms regulating is the process that can be extrapolated to the gradual understanding of meaning in narrow areas of study during the education or reception of social meanings in socialization. Notably, the stages of language learning are presented in theories of categories, too, because one of the interpretations of Firstness, Secondness and Thirdness involves intrapersonal, social and cultural relations.

Returning to linkage between abduction and deduction and corresponding categories, it should be noticed that abduction aimed at rules and is guided by rules. So, here the focus on deduction, Thirdness is essential for the very beginning of the abductive inquiry. As Peirce notes, the final understanding is possible only at the third stage, reference to an interpretant. Interpretant can be the product of mind either of speaker or hearer. For the current purposes can be deduced that no speech on meaning can be commenced without pre-giveness of some understanding of the normative character of meaning understanding and transfer.

As for the meaning of interpretant, Peirce distinguished meaning of the speaker, hearer and ordinary meaning of the sign (intentional, effectual and immediate interpretants) (Pietarinen, 2004, p.299). In Brandom’s project the same triadic structure can be extracted (attributed and undertaken commitments of speaker and hearer, propositional content), meanwhile Grice highlighted the speaker-meaning. The differentiation suggested by Peirce and built-in orientation on expectations allowed to reflect intended and non-intended, implied and explicit, purposefully determined and non-determined meaning. As far as abduction deals with surprising utterances, they can be predicted and planned by the speaker, and the hearer may or may not express understanding in implicatures and the following utterances, may ask clarifying questions to test hypotheses and so on. Therefore, the descriptive language of abductive theory of meaning is rich enough to convey variety of meanings of ordinary language practice. The constant embedded assessment of propositional content and commitments is included in Brandom’s theory and it can be realized in uncooperative contexts. As for the Grice’s pragmatics it calculates violations of maxims of cooperative efforts in conversation and is speaker-oriented, and in this regard can differentiate direct and indirect meaning.

Whatever the meaning is, it will be inferred, it is not just givenness of meaning with the only contentious exception of conventional implicatures in Grice's theory. In direct correspondence to the principles of choice of hypotheses among a diversity of them, meaning is interpreted according to the principles of economy of energy and time. As Kant has already shown, the principle of not lying is normative not only in the practical, ethical sense, but also as a rational principle, because the communication is nonsensical, if everybody lies. So, norms, maxims, principles governing the meaning transfer and responsibility for truth-preservation are the consequences of the rational character of interaction of agents. Brandom, Grice and Peirce agree in the point of normative, rational, inferential nature of meaning transfer.

Inferential nature of meaning transfer can also distance issues of theories of meaning from theories of truth. On the one hand, in Peirce's and Brandom's account meaning transfer in chains of utterances or game moves is hermetical enough. But the need for distinctions between true and false propositions in communication forces to train not only inferential capacity, but instinctive one, too. Despite the complexity of communication human agents are effective enough in recognition of implicatures, allusions and hints in their ordinary practice of making (unconscious mostly) inferences to the best explanations of the speech of the speaker. Peirce wrote that "the human mind is akin to the truth in the sense that in a finite number of guesses it will light upon the correct hypothesis" (Peirce, 1901, CP 7.220). The same is true for abductive guessing of meaning. On the other hand, ordinary interpretants can be verified according to the correspondence theory of truth.

2

After the historical and comparative part of narrative, some more detailed examples should be demonstrated to manifest the relevance of abductive theory of meaning.

In some languages abductive markers of meaning are fixed in semantic inferential indicators of indirect evidence. In accordance with classical scheme of abductive inference as inference from the result, the examples show embedded in grammar inference from evidence to the cause. For example, in Turkish the speaker can utter "Kemal gel-miş" (Kemal come-INFER| {I see, that} Kemal has come) after noticing the coat of Kemal in the speaker's house hallway after the speaker arrived home. The form "miş" of Turkish (Inferential) Perfect Tense has analogues in other Turkic languages and is used in situation that the speaker should infer p from experience/evidence q and knowledge of p entails (causes) q . Moreover, there are linguistic forms of non-experiential inferential indicators which can be based on common beliefs of community, intuition and logic of the speaker. (Tatevosov, 2019)

Thus, the second sense of abduction (as set of existential commitments-hypotheses, common ground) can be remarked in usage of non-experiential inferential semantic indicators. The inference to the explanation (“Kemal has come”) is a paradigmatic case of abduction as Inference to the best explanation. It is based on habitual experience and is the result of selection among other possible explanations (“Kemal has left his coat last time”/ “The coat of Kemal looks like the coat of some other person and that stranger has come” etc.). The inference is only plausible, because the speaker was absent, but he can easily verify his assertion. But the semantics of this indicator includes the requirement of choice of the most plausible (the strongest) explanation. Otherwise, the conversational implicatures will be caused in condition of violation of Maxim of Quantity. The connection of abduction and process of generation of implicatures will be considered further.

Interestingly, the surprising element of abduction can also reflect in the special semantic indicator, but this effect of unexpectedness is related to the effect of loss of control. (Tatevosov, 2019)

mIn balta al-gan-men!

I ax take-PFCT-1SG {It
turns out that} I took the ax!

The “-gan-” part shows the a posteriori surprising effect of finding the axe in the bag by the speaker.

To conclude, the abductive constitutive element is essential for analysis of some grammatical forms and is indispensable. In addition, during the analysis, it was confirmed, that abduction is used in its several senses at different levels.

3

The abductive pragmatic model of meaning as an inferential theory is contrasted with code model. As an inferential model abductive theory of meaning consists of the following points. First of all, unlike in code model, meaning comprehension includes not encoding of the messages from the signals, but inferring meaning from utterances as an evidence, in abductive terms, facts. In both cases the meaning is the speaker’s meaning. (Wilson and Sperber, 2005, pp. 470-471).

As abduction aims at explaining new evidence, it fits perfectly to the problem space of theory of meaning. Moreover, abductive reasoning presupposes comparison of new evidence with existing knowledge, so in theory of meaning the interrelation of current situation of

interpretation in light of wide base of knowledge can be counted. This point explains the second feature of abductive pragmatic model of meaning, the contextualist approach to semantics. According to the contextualist semantics, the meaning of the utterance is understood as involving not only propositional, but contextual, extralinguistic knowledge. The opposite view of literalism in semantics relies on the truth-conditional values. (Wilson and Sperber, 2005, pp. 470-471, 476-477).

The third trait of abductive pragmatic model of meaning is its normative character. Following P. Grice (Grice, 1989 (1967), pp. 26-7) communication is considered as cooperative activity of rational agents guided by norms. Cooperative Principle suggests being truthful and have reasons for the postulated (Maxims of Quality), be informative and not tell more or less information that it is necessary (Maxims of Quantity), be relevant (maxim of relation) and be orderly, brief and make speech clear (Maxims of Manner). In hierarchy of maxims quality maxims are the guiding principles of assessment. So, in situation when it looks like that one of the maxims is violated, the hope for the general framework of the conversation is cooperation in inferring true propositions. The very usage of such a principle is the application of the inference to the best explanation. All things being equal, IBE suggests cooperative framework and estimating violations as informative. This way implicatures, implicitly communicated propositions, are generated.

Two types of implicatures, initially distinguished by Grice, are conventional implicatures and conversational implicatures. Conventional implicatures induced by such words as “even, but, therefore, still” etc. promote inferences that are irrelevant to the truth conditions of the proposition (“Even my younger brother knows it.” –true if only my brother knows), but not cancelable without contradiction (“Even my younger brother knows it, but that’s not surprising”). Violation of maxims generates exactly conversational implicatures. (Horn, 2004; Potts, 2005)

According to some scholars, conversational implicatures are inferences to the best explanation. (Geurts, 2010, p. 34-37). The derivation of conversational implicature is associated with context assessment (common ground), selection of maxim violated (IBE), inference to the unobserved cause from the observed result (answering the question “why the speaker has chosen such a manner of utterance?”), selection of the most plausible explanation (the surmise of the speaker’s intention, namely his intention to induce a certain belief and the hope for recognition by hearer the intention behind the utterance (Grice, 1957, p. 382).

Furthermore, the abductive nature of reading conversational implicature is also emphasized by the character of inference. Highly context dependent, sensitive to information updates, subject to the degree of indeterminacy incorporated by the speaker and plausible it is, it cannot be baptized as a logical calculus, deductively valid. (Geurts, 2010, p. 48) The pragmatic reasoning is more accurately described as a search in problem space (surprising interpretations and possible implicatures) guided by heuristics (maxims and knowledge base, expectations) rather than algorithm of decision theory.

As in scientific understanding of abduction as a first stage of inquiry we can distinguish the stage of interpreting “surprising” facts in the speech (the moment of implicature-generation), the stage of alignment of facts with common knowledge (analogue of retroductive usage of abduction), the stage of creation hypotheses (reconstruction of implicatures) and selection of the best among them (IBE). Inductive stage follows the abductive, so the utterance, produced by the hearer to speaker, is purported to verify the correctness of inference. Deduction will contribute at all stages to infer valid conclusions (interpret explicitly stated propositional meaning independent of context).

The last but not the least, pragmatical abductive theory of meaning explicates the derivation of the meaning for the case of metaphors similar to abductive process of concept formation. In line with the analysis proposed by relevance theory of pragmatics (Wilson and Sperber, 2005, pp. 489-490) the comprehension of metaphors can be shown as a process of derivation of meaning, actually by constructing ad hoc concepts for metaphors through the assessment of inferential role, not by following the definition. For example, characterization of a person “being a computer” may be evaluated as a complement in the context of speed and accuracy in working with data or as a caution in the context of personal communication. The strategy of interpretation can include saving, broadening and narrowing of the meaning. The best explanation in such context can be understood as reconstructing the accustomed meaning of the concepts.

4

The model of R. Brandom (Brandom, 1994) which is called inferential semantics or sometimes “normative-pragmatism” (de Prado Salas et al., 2017) is very close to the introduced analogy of understanding of meaning in pragmatics and abductive stage of scientific inquiry.

As in papers of P. Grice the interaction of speaker and hearer is presented as interaction of rational agents following norms. The role of normative framework analogous to Principle of Cooperation is fulfilled by the deontic score, the rate of agents as truth-makers in the game of

social articulation. The roles of agents are more equitably distributed: both the speaker and the hearer make moves in game of conversation and take responsibility for the meaning transmission. Meaning transmission plays the role of the realization of the truth thanks to the assumption of rationality of agents involved. The reasonable creatures are capable of changing the world by making-true what they think is true or what they prefer to be true. The meaning in Brandom's theory is not only the Speaker's meaning, but the product of deductively inferred propositions and abductively (as we can call it) ascribed assumptions on the connections of explicit utterance with its inferential context. Agents participate in the game of giving and asking for reasons for acceptance of content of utterance which is the sum of propositions stated and inferential links to other contents. The reasons are the attributed explanations of behavior of agents, the grounding of their rationality. So, here the IBE comes on stage. Theoretical (causal) and practical (means-end) inferences are the object of interpretation. Therefore, abductive inference is in need to identify both practical and theoretical impact of the speech.

The stakes are high, owing to the implicit deflationary theory of truth in theory of meaning, the source of the truth is a controversial issue, but all the participants of the graph of interactions bear responsibility. Truth is prescribed both for the propositional content (future premises for inference) and inferential relations. Social articulation, the change of perspectives (former hearer is now speaker and vice versa), provides relatively tight space of meaning-transmissions without explicit withdrawal to the "external world". As a result, there are no representations and correspondent theory of truth issues.

So, the communication is value-based. All the agents have deontic statuses. Discursive move entails not only the content of assertion, but the entitlement (for the speaker)/ commitment (for the hearer) of all the inferentially derivable propositions from the stated. The agents' deontic score is updated after the each utterance. The unique utterance is integrated in the network of inferential relations and each reasonable agent should know how to make moves in this network. Certainly, this knowledge is deductively ineffable and just contains a range of existential and social commitments that ground the abductive base. The abductive base involves evaluation principles of counting some moves as good and bad ones and scoring pluses or minuses to the deontic score as far as they designate practical implications of utterances. The knowing-that is fixed by propositional content, more or less deductively inferred.

Brandom encourages operational, not essential understanding of meaning, meaning as a move in game guided by rules of distinct strength. The most of all rules are defeasible abductive hypotheses providing the flexibility of social interaction. The rigid structure of the inferential network (edges of the interaction graph) consist of concepts that rule the practice. The attributed

and undertaken commitments of speaker (from the point of view of hearer) and hearer (from the point of view of next game move – of speaker) are the explanations of behavior which should be abductively inferred and evaluated.

As Peirce, Brandom acknowledges the biological grounding of capacity of meaning understanding, but to a much lesser extent. In Brandom's explanation the role of agent is more active: the content is not grasps as in works of Peirce as more or less autonomous interpretant, but is actively constituted element. The binding of theoretical and practical reasoning reflects in two-sided significance of giving and asking for reasons in game of social articulation. Certainly, Brandom puts much more emphasis on social articulation of reasons, not only inferential.

Moreover, the focus of Peirce is new knowledge, meaning as dynamic entity, while Brandom looks for reasons. Insofar as analogies with philosophy of science are suitable, Peirce can be called the prophet of logic of discovery, whereas Brandom as a proclaimer of logic of justification.

Peirce admits weak degree of certainty of hypotheses in communication, whilst Brandom concentrates on obligations, demands for reasons and sources (as authority) of making assertions more justifiable, more valid.

Brandom is closer to Grice in his respect to bindingness, rule-governance, but it involves normative, not intention-based theory of ascription of meaning consisting of attributing an inferential entitlement to the speaker, endorsement of the claim by the hearer and propositionally contentful commitment. Furthermore, from the point of view of dynamics of meaning Brandom's pragmatic scorekeeping associated with monological relations among propositional contents linked to the chains of commitments and dialogical inferential roles, is closer to the Peirce's theory. The significant step in the progress of abductive theory of meaning is Brandom's accounting of interpersonal relations.

Brandom's theory of meaning presupposes abductive reference to the common ground existential commitments as basis for hypotheses, abductive (IBE) judgement on the degree of certainty, practical attitude to the statement (constituting meaning as hypothesis).

Conclusion

Throughout the text, it was mentioned several times that the practice of meaning-computation is envisaged as normative rather than psychological (descriptive) activity of rational agents interacting. That is why it can be concluded that the abductive theory of meaning is normative. In philosophy of language abduction stipulates primarily its sense as an autonomous type of

reasoning. And abduction is an efficient instrument to analyze the transmission and generation of meaning, dynamics of natural language usage.

Creative and selective potential of abduction is fully implemented in interaction of speakers and hearers. Natural language is saturated by existential commitments (abductions of common sense), references to the explanations of behavior (abductive inferences of deontic agents), choice of the most plausible explanations (IBE), implicatures. All of them affect meaning transfer.

All in all, abductive theory of meaning cannot substitute existing theories of meaning, and the rare instance of semantic abductive indicators (presented in part 2 of this text) is vivid evidence why it should not. Nevertheless, abductive theory of meaning can expand current theories in the direction of the usage of game-theoretic frameworks, explanatory models, cognitive models of perception and perceptual evidence etc.

Abductive theory effectively solves the problem of attaining new meaning thanks to the advancement of habits of conversation practice and enrichment of common ground of community. The interactive aspect of abductive theory and game with common expectations can explicate the usage of uncooperative modes of speech, transfer of indirect, implicit meanings.

Also, abductive theory of meaning explains the betterment of the human capacity to understand meaning during the life.

Abductive theory of meaning has a benefit of mirroring the object language and metalanguage. Just like the result of abductive inquiry is pre-directed by the pre-given knowledge of laws, the abductive theory of meaning is constructed by agents already possessing the knowledge of meaning.

Even the draft of abductive theory of meaning has some open questions inherited from its pragmatic provenance. As well as abduction itself is simultaneously “guessing instinct” (Peirce, 1891, CP 6.10) and type of inference (having “a perfect logical form” (Peirce, 1903, CP 5.188), meaning in abductive theory of meaning is speaker’s meaning (Gricean aspects of pragmatical abductive theory of intentional meaning) and sentence meaning/proposition with the meaning of all its inferential links (Brandom’s inferential semantics far from psychologism). In some respects this shortcoming in defining the nature of meaning can be appreciated as advantage. Unfolding of the utterance fosters online parallel processing of hypotheses on meaning: propositions, inferred content, implicatures, implicated conclusions and challenge in the game of moves of agents with deontic scores. The efficiency necessitates multi-channel processing and

two different modes of handling (conscious and unconscious for less and more familiar flows of information, respectively).

Abductive theory of meaning has normative, economic and evolutionary dimensions that can be explored separately.

Finally, abductive theory of meaning as inferential theory attracts our attention to the meaning transfer rather than defining its necessary and sufficient condition. Well, abductive theory due to its complex rules reminds us linguistic diversity and beauty.

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