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Open Justification and Correct Reasoning

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Abstract:
How it is possible for one moral subject to claim one norm to be justified whereas another subject does not agree with that norm? This issue addresses not only moral principles, but rather the contents of belief systems which lead to various conclusions. According to Gaus, each subject holds her own system of reasons and beliefs, in which she can be openly or closely justified, depending on her willingness to include new information in the existing system of reasons and beliefs. However, all the members of a community need not necessarily abide by the same norms, but they must be able to understand which norms the community accepts as reasonable so they can either express their agreement or disagreement about it. In such a way, disagreement does not result in misunderstanding neither disagreement is followed by consensus.
By making references to the studies of Rips, Lehman and Nisbett, Gauss succeeded to show that people share common inference rules to a sufficient extent that it cannot be said that one is not openly justified because of her excessive differentiation with respect to these rules. Nevertheless, it is possible to figure that a subject is openly justified to have certain belief while another is not.

Keywords: justification, justificatory liberalism, human reasoning, mental logic

1. Introduction

The current paper will address an issue of how comes that a moral subject claims one norm to be justified whereas another subject does not agree with that norm. The matter will be further explored and generalised, and will as well address not only moral principles, but rather the contents of belief systems which lead to various conclusions. Moreover, it is known that subjects can make various mistakes at reasoning of any kind. This raises the question whether subjects are thus irrational. As a starting point for writing the current paperwork served the theses Gaus evolved in his book *Justificatory Liberalism* (1996), as well as the studies of Rips, Lehman and Nisbett, the authors whom Gaus evokes in his analysis on human reasoning system.

Gaus' objective is to relate inferential justification to moral principles, starting from the analysis of individual reasoning, where each subject holds her own system of reasons and beliefs. Individual reasoning is inseparable from public reasoning because each individual develops her own system of reasons and beliefs through her interaction with others. However, all the members of a community need not necessarily abide by the same norms, but they must be able to understand which norms the community accepts as reasonable so they can either express their agreement or disagreement about it. In such a way, disagreement does not result in misunderstanding neither disagreement is followed by consensus.

The possible distinction in the application of inference rules can be mentioned as one of the possible causes in distinguishing moral norms among individuals the current paperwork will attempt, in accordance with Gaus' claims, to show that it is not justifiable to address such a distinction, and that it is necessary for a community to have certain rules of inference that are normative for its members in order to belong to that community.

2. Open Justification

Open justification is characterized as a possibility of accepting new information and arguments about beliefs, but without changing own belief system (Gaus 1996, 30). Gaus has introduced the concept of open justification in response to Rawls' use of the concept of justification, which he classifies as a closed justification. Closed justification is characterised by considering only own current beliefs and reasons (Gaus 1996, 31).

Open justification raises the following question: if one's beliefs were subject to an extensive criticism and if new information were available to her, would her position allow her to revise her own beliefs? In other words, is a subject resistant to new information after having received it, or can this new information affect the subject's own belief system? It allows subject to have grounds for beliefs which are not part of her own belief system, but her consent to new reasons must be based on her current belief system which is subject to change due to new information. Open justification avoids the pitfalls of a closed justification because the subject can strictly follow all her prejudices and erroneous beliefs that will ultimately lead her to reject the attitudes followed by another subject who still keeps thinking that these attitudes should be imposed to her because, if the subject were more reasonable and open to new information

and to taking into account other factors, her herself would accept them. In other words, one can be openly justified in accepting *beta* while simultaneously and consciously refusing to accept *beta.*

How do we determine whether consideration is a good reason enough or any reason at all for a subject to believe *beta*? In order to be justified in believing *beta*, a subject must hold or accept reasons justifying *beta*. Furthermore, a subject must subjectively have good grounds for believing *beta* (naturally, that does not necessarily mean these are fairly good grounds). Still, many theories indicate that the grounds over which we accept moral norms are not justifiable (for example, we accept moral norms because we take them over from an authority). The issue here, strictly speaking, is not of the beliefs firmly based upon reasons or the inferentially justifiable beliefs (because invoking an authority cannot be deemed a sufficiently good reason if for this there do not exist other reasons which are consistent with the remaining contents of one's own belief system).

Further, Gaus makes reference to the Degree of Implicatedness Thesis of one's own beliefs, according to which particular beliefs are more deeply implied into one's own belief system, thus considerable effort is required to eradicate them (Gaus 1996, 41). The same, however, is not the issue with beliefs which are not that deeply implied because they entail smaller beliefs which are not so difficult to be refuted. Still, some basic beliefs should be present in all beliefs as a starting point for other beliefs. Gaus deems this initial set of beliefs may be different among subjects, and that this can be a cause of differentiation of moral norms among subjects. Another possible cause for distinguishing moral norms among subjects can be the differentiation of inference rules which are followed by certain subjects (Gaus 1996, 45) that will be elaborated later.

Ultimately, Gaus claims an interaction between language and logic is highly complex so, for instance, English language speakers apply particular inference rules which speakers of other languages do not (Gaus 1996, 48). Through the remaining paperwork, we will elaborate on how the set of logical operators cannot differ among persons (not significantly, at least), thus that cannot be the cause of differentiation of their belief systems. What indeed differentiates among them, and is influenced by language, is the very mode in which particular logical operator is expressed in a particular language, or to which connectives it responds. Here differences among languages should be considered, however, in the current paperwork, we will follow from the assumption that criteria for understanding of a particular connective which, according to Rips, implies the understanding of its introduction and elimination, should not be questioned by mentioned semantic nuances among languages.

3. Reasoning

What occurs when a moral subject claims particular norm to be justifiable while another subject does not comply with that particular norm? If everybody is entitled to her own opinion and we are all cognitively equal, in order to accomplish particular objectivity, an agreement of reasonable people is necessary. However, Gauss claims that this can be problematic because in some cases an agreement might be difficult to reach.

Rawls (stat. by Gauss, 1996) has introduced a thesis entitled *Reasonable People Thesis*, which explains what is essential to be achieved among reasonable people. Among other, the thesis implies that reasonable people in public justification are solely based on the methods of reasoning which are acceptable to others, i.e. on common-sense reasoning and uncontroversial scientific inferences. This condition is called *accessibility condition*.

Further, Gaus observes that under the referred condition it might be problematic to address common-sense types of reasoning because (1) people can accept any kind of incorrect inferences as valid; and (2) it is not certain to which extent people can be taught to reason correctly. In addition, a complaint can be related to the fact that it is not clear enough which common-sense types of reasoning are considered, i.e. precisely which rules are used.

The above stated proved problematic in Rawls' theory because common-sense logic is, according to Gaus, deviant in a sense that it does not entirely correspond to classical logic and is not certain to what extent people can be trained to apply it correctly. This raises further question such as in what relation are inference rules to the rules of classical logic, and whether all subjects apply them equally or they use different rules. Gaus deems that there exists a minimum core, i.e. the basic norms of reasoning, which can be attributed to anyone, and this is, indeed, lesser than what Rawls himself requests. Furthermore, Gaus makes reference to the work of the psychologist Rips, creator of the mental logic theory which is one of the major psychological approaches to human reasoning.

3.1. Mental Logic

According to mental logic theory, propositional reasoning implies the ability to make inferences on the basis of sentence connectives such as *and, or, if ... then, no,* etc., as well as on the methods for their introduction and elimination. A prerequisite for understanding of a particular conjunction is the understanding of the process of its introduction and elimination. There are different psychological theories and models that elaborate these reasoning processes (some of which will be mentioned later), and one of them refers to a natural deduction system (ANDS). According to this system, when reasoning, people follow the rules of a natural deduction system or the partially changed system of rules, thus allowing them to introduce various presuppositions.

If such an approach is accepted, then it will raise some fundamental issues such as (1) how to determine which rules shall be included into the reasoning system; (2) are these precisely all the rules of the natural deduction system (namely, problems may arise even regarding to accepting modus ponens rule) or these rules do not fully comply with the rules of classical logic; (3) does this system contain a minimum number of rules from which other rules, when necessary, are derived or is this system from the very beginning quite extensive; (4) and are these rules context-dependent; (5) are they socially dependent; (6) are they variable (in a sense that children's reasoning system might not contain all the rules or that particular rules may change during the time), etc.

One of the fundamental reasons why advocates for ANDS approach opted exactly for the rules of a natural deduction system stems from the proposed features of these rules. Actually, the author of a natural deduction system, Gentzen, sought to develop a system

which would be as closely as possibly to real reasoning (Gentzen 1969, 68). For this reason, unlike of, for instance, axiomatic systems, the natural deduction system does not contain any axiom, but just inference rules providing the possibility of introduction and elimination of connectives and quantifiers. Moreover, in everyday reasoning, subjects do not accept a conclusion if they consider that its premises are false, as well as they do not want to draw conclusions based on the contradictory premises. However, these presuppositions need not necessary be true. Therefore, natural reasoning is not based on premises (some, any), but on the presuppositions which are considered to be true.

Rips (1983) considers that inference rules fully correspond to a natural deduction system; however, some of the rules have been found counterintuitive to a certain extent, for instance, introduction of disjunction which only 19,7% respondents consider to be the correct decision making method (Rips 1983, 62). However, according to Rips, it can be noted that inference rules are still *understandable* to respondents after these were thoroughly clarified, but nevertheless they will not use some of them in everyday reasoning because they do not need them, and using them can even be to some extent uncooperative.[1]On the other hand, the use of that rule may prove useful under certain circumstances, for example in the following inference:

Mark knows he will have lunch cooked if his mother or grandmother are at home when he returns from school. Having returned from school, he finds his grandmother at home. His reasoning went in the following order:

1. M v G → L   P
2. G   P
3. M v G   v i 2
4. L   MP
                 1,3

Thus, the rule for the introduction of disjunction can be regarded as counterintuitive if viewed separately; however, it is undeniable that it can be applied when reasoning and that it is understandable to subjects in such contexts.

Further concern may be raised is to whether inference rules are descriptive or prescriptive, i.e. whether they just present some ideal standard of reasoning or it is necessary to follow them in order to reason correctly. If reasons are the causes for justifiable beliefs (such as Davidson claims)[2], then it seems natural to give a causal interpretation of inference rules governing rational belief systems.

Inference rules define rational relations among beliefs; if reasoning (which is causal) is rational, then it must be confirmed by these inference rules. On the other hand, if rules are only descriptive, and inform us solely of which inferences are correctly or incorrectly drawn with respect to a particular standard, then it is not clear how they affect the causal relations between reasons and beliefs. For this reason, Gauss and theoreticians advocating for mental logic will preferably support the claim that mental logic is rather prescriptive than descriptive.

Advocating for the theory of mental logic gives grounds to believe that fundamental inference rules governing reasoning cannot vary significantly between individuals and/or communities, thus leading to a conclusion that it is not necessary to apply the principle of charity when determining the consistency of belief systems of others attributing to them various fundamental inference rules because these rules cannot vary to such an extent that they can cause differences in reasoning. There is still to address the issue of why errors occur when reasoning and whether it is possible to correct errors through training or formal education in the field of logic.

3.2. Errors in Reasoning

Errors in reasoning primarily occur because subjects are accustomed to an economical use of inference rules, i.e. they use only those rules that they frequently in use and that are easy to apply, but that does not necessarily mean they cannot use other rules when the need for their use is explicitly emphasised to them (as demonstrated by the example of the introduction of disjunction). Sometimes, wrong rules (according to classical logic) are easier to learn than the right ones, which can also cause errors in reasoning regarding the use of incorrect rules. In addition, operators in classical logic do not correspond fully to the connectives in natural language neither to inference rules that are generally followed; therefore, such an "irregular" use can as well lead to what is considered as an error in reasoning. Such an example is the frequent use of negation of antecedent and affirmation of consequent, as well as in cases when it is justifiable to apply these because the issue here is not of a conditional clause, but of a biconditional clause, and the biconditional clause is often expressed in the natural language equally as a conditional one (by construction *if ... then* instead of *if and only if ... then*).

Gaus deems that an analysis of wrong rules is not principally different from an analysis of causal errors because both imply that human cognitive resources are limited. The economical use of cognitive resources may result in an unjustifiable belief due to reliance

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[1]According to Grice's conversational maxims, if, during a conversation, we use 'P or Q' instead of 'P', and we know that 'P' must be true, we violate the maxims, which is not acceptable in everyday communication. For details, see Grice (1975).

[2]In his article "Actions, Reasons and Causes" (1963), Davidson sets out to defend the view that the explanation of action by reference to reasons (mental events whose content is based on a specific premise) is also a form of causal explanation. Furthermore, he argues that reasons explain actions just inasmuch as they are the causes of those actions. Thus, a causal explanation is viewed as essentially a matter of showing the event to be explained as an instance of some regularity. Consequentially, if reasons are simultaneously the causes of a mental event whose content is a conclusion, then, if mental logic is correct, the connection between reasons and actions must be logical/casual/rational.

upon the wrong rule, as well as that an error can occur when correct rule is not derived from memory, or the proper relation has not been established among beliefs.

In support of his claims, Gaus further cites studies by Nisbett and Lehman (1990) claiming they speak in favour of the fact that one can learn correct reasoning through training. If subjects indeed can correct errors after they learned the correct way of reasoning, this would mean that they are prepared to revise their own belief system if they have a good reason to change their own beliefs.

In the event of criticism and new information, subjects attempt to revise their own belief system because they find a good reason for that change. Gaus considers that study of effects of education over the elimination of errors conducted by Nisbett et al. (1987) indicates to the fact that subjects are not openly justified if they do not want to be openly justified.

4. Possible problems for Gaus' argumentation

Two problems can be observed in Gaus' argumentation. First, the studies mentioned above do not unequivocally speak in favour of Gaus' theory, because they observe particular certain areas in which reasoning can be successfully trained, while it is not applicable to other areas. In addition, the studies conducted by Nisbett and Lehman (1990) have shown that students who completed courses in statistics gave better estimations of the probability of particular events. Still, the question remains how this is precisely associated with inference rules. Furthermore, the above studies have shown that people can be successfully trained to solve problems in statistics, but not to solve problems in formal logic as well. The courses in formal logic absolutely do not help students to make better decisions over their daily problems which require the use of modus ponens, modus tollens, etc., that is, some sort of conditional reasoning. Here, the major concern refers to what precisely should be trainable and do the results of those experiments speak in favour of Gaus' claims or not.

According to Rips, the understanding and acceptance of a particular connective means that the rules of the introduction and elimination of a connective are fully understandable and acceptable. It seems that it is fairly possible that people do understand and accept the rule of the introduction and elimination of conjunction and found them very intuitive, but this, for instance, does not entail awareness of the fact that the probability of conjunction is lesser or equal to the probability of any conjunct. Therefore, errors in reasoning, which are frequently observed in experiments (and Gauss himself refers to such examples), do not necessarily mean that people do not understand connectives correctly or cannot apply them properly.

Moreover, in terms of the construction of mental logic, Nisbett and associates do not follow the same theoretical assumptions as does Rips, and that is perhaps the biggest criticism that could be levelled to Gaus's claims for his attempting to relate those authors.

As mentioned earlier in the text, there is a number of psychological approaches to human reasoning, and during the twentieth century, the three major approaches played a leading role in human reasoning. First of them is Rips' theory of mental logic that has already been elaborated.

The dominant approach is the theory of mental models that is guided not by use of rules, but by creating of mental models. This approach is mainly represented by Johnson-Laird and his collaborators. When people strive to attribute particular meaning to a particular proposition, they create in their mind a situational model to which they ascribe that very proposition. This model can be either verbal or pictorial, but, most importantly is to be compatible with the way people understand the real world. In order to verify the correctness of the model, it is necessary to try to create a counterexample (i.e. false conclusion that follows from true premises). In there is no such a counterexample, presupposed conclusion can be accepted.

According to the theory of heuristics as the third significant approach, in some cases subjects use heuristics – a sort of a shortcut in reasoning strategy, essentially wrong, based on generalization of a principle of reasoning that subject has found successful when solving similar problems (to which it can be correctly applied). The most important representatives of this approach are Tversky and Kahneman (1973), to whose studies Gaus also referred in passing (p. 56 et seq). They have developed a theory according to which reasoning is a decision-making process in which premises are evaluated upon a limited number of heuristics, i.e. general reasoning filters which avoid counting of real probabilities. Heuristics can lead to errors because the assessment of premises is based upon data of limited validity. This approach also indicates that people evaluate frequency or probability of the occurrence of an event, taking into account to what extent a particular event is known and familiar to them that can as well occasionally lead to erroneous inferences.

The theory by Nisbett and Lehman can be classified somewhere in between the theory of mental logic and the theory of heuristics. Unlike advocates for the theory of heuristics, Nisbett and Lehman believe that people are often more sensitive to the influence of sample size. This can be even seen in proverbs like "Do not judge a book by its cover " or "Not all that glitters is gold", or in an expression such as "the beginner's luck". People have an intuitive version of a variety of abstract rules such as the rule of large numbers. These authors go further and indicate that people have an intuitive version of modus ponens, modus tollens, causal and other rules. According to the studies by these authors, the respondents when solving problems which required the use of systems of rules articulated precisely these systems of rules so as to justify their inferences.

At an earlier stage of investigations, Nisbett and Lehman claimed that wrong heuristics coexist with abstract rules. According to the theory of mental logic, reasoning is based upon formal rules and additional mechanisms are not introduced. Errors in reasoning result from the misuse of rules that can occur for a variety of reasons that has been elaborated earlier. In later works, heuristics were replaced by human impossibilities of recognising the applicability of rules (1987), by which the theory represented by Nisbett and Lehman closely approached to Rips' theory.

What is particularly in common to Rips, Lehman and Nisbett, is that all of them consider the theory of mental models, according to which there is no inference rules to follow, erroneous. Nisbett et al. (1987) claim they have shown that people possess inference rules involving probability and statistics, methodological principles, the rules of cost-benefit decision theory as well as *pragmatic reasoning schemas* (PRS). In view of that, he diverges from Rips because PRS are not the rules of a natural deduction system.

The pragmatic rules of reasoning or PRS register regularities repeating among problem-oriented goals and relations among events that people encounter in their everyday life. Those rules are purely abstract because they are not linked to any single content domain neither are completely independent of relations and problem-oriented goals in a way the rules of formal logic and purely syntactic rules are that make them different from the rules of the natural deduction system.

5. Conclusion

By making references to the studies of Rips, Lehman and Nisbett, Gauss succeeded to show that people share common inference rules (both linguistically and logically) to a sufficient extent that it cannot be said that one is not openly justified because of their excessive differentiation with respect to these rules. Nevertheless, it is possible to figure that a subject is openly justified to believe *beta* while another is not.

In order for someone to be an epistemologically justified person, it is crucial to be able to draw rational inferences which are acceptable to reasonable people. Although people can draw wrong inferences, this does not necessary imply that they are irrational or, according to Gaus, openly justified. In fact, as stated earlier, errors can occur due to an economical use of inference rules or to resorting to the use of heuristics. Prescriptiveness consists in that we can recognise what is right and what is wrong, primarily in a social sphere or within a particular community. However, the use of an incorrect rule can be deeply rooted in an individual that it does not allow them to look at other people's justifiable reasons (what Gaus calls *impartiality* (Gaus 1996, 46)). Insomuch people are not irrational since economical reasoning greatly benefits them under certain circumstances, but it can as well prevent them from being openly justified.

Gaus' argumentation could be objected for his making reference to the studies of Rips Nisbett and Lehman, even Kahneman and Tversky in the same context, without emphasising the differences in their approaches, while those authors do not follow the same theoretical assumptions.

Gaus' referencing to different psychological theories of human reasoning in order to support his claims essential does not lead to an error in his argumentation – in the same way how people interpret the use of rules so as to draw inferences which are more preferable to them, so does Gaus invoke the representatives of different theories in order to raise enough material for support to his own inferences. For a more consistent application of such an argumentation, different theories dealing with human reasoning should be distinguished in such a way so as to be clearly indicated in what way they differ in their crucial part, and then posteriorly make references to their studies, because only then it would be clear enough that the mentioned authors are not precisely the representatives of the same ideas, although the results of their studies may occasionally complement or interfere with each other.

In conclusion, regardless of several complaints that might be addressed to Gaus' argumentation, one can argue that Gaus succeeded in showing that inference rules among different subjects are broadly similar for the following reasons: (1) due to open justification: the same or sufficiently similar cognitive system is a prerequisite for people to be openly justified; (2) due to the liberal principle of legitimacy: no law is legitimate if there are citizens who cannot justify it, and (3) due to the rejection of problem of value pluralism: ultimately, one can argue that particular law is justifiable even if a number of citizens do not accept it (although they might accept it since the law is justifiable in their own belief system).

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