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Contents:

Realism and the Challenge of Moral Dilemmas

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I

Bernard Williams appeals to phenomenology of moral dilemmas to provide arguments against moral cognitivism (and realism). In two of his papers, "Ethical Consistency" and "Realism and Consistency" Williams attempts to show that moral judgments have some features in common with desires and, regarding these features, they are different from purely descriptive assertions. We can put his arguments this way:

(i) There are moral dilemmas that we have no way to put one of the alternative's aside, though realists maintain that we can and have to do so.

(ii) There are moral dilemmas that though we may find support for one of the alternative, yet we experience some kind of regret about the abandoned one, a feeling that is both moral and rational.

In this context, by moral cognitivism I mean the view that moral judgments are assertions about the way world is. Moreover, moral realism is the view that cognitivism is true and there are true moral judgments-to exclude the error theory.

William's claim is that all good moral theories should (and can) explain two mentioned phenomenon, but moral realism cannot to do so. Therefore, moral realism is not a good moral theory, i.e. is false.

II

In the literature, dealing with these kind of arguments, realists usually appeal to epistemic limitations and the strategy seems. Let us apply this strategy to the aforementioned objections:

Realist's answer to (i): realists do not maintain that we actually (or even potentially) know the answer to any moral dilemma. It is all right for realists to claim that we know many or a few of them. (Maybe it is even possible for a realist to believe that there are true moral judgments, though we have no way to know them.) In other word, it is better to understand realism as a metaphysical position. In fact, realists can defend different epistemological positions.

Realist's answer to (ii): realists can be humble and take into account our epistemic limitations. Having this in mind, maybe one feels regret because she is not certain about her decision.

These two responses seem promising: there could be moral realists that have no trouble with William's demands in phenomenology of moral dilemmas. However, it is not that simple.

III

As Zangwill points out, there is another aspect of William's second argument that is not considered: if moral judgments are beliefs, how they can produce regret as an emotion? And in what sense this emotion can be moral? Related to this, William asks us how a prima facie duty that is not a duty anymore can make us feel anything, let alone regret.

A possible way to explain how a moral belief produces a moral emotion is by appealing to a desire-based externalism. (In this section, I mainly use Zangwill's work on the issue). Consider this general model:

1. Maryam has a general desire to do morally right actions.
2. She believes that doing A is morally right.
3. (1) and (2) together, produce the desire to do A.
4. She believes that doing B is morally right.
5. (1) and (4) together produce the desire to do B.

Now, suppose that A and B are two options in a dilemma. In this situation, even if Maryam finds reason to choose A over B, this doesn't mean that she does not have

the desire produced by (1) and (4). And it is this desire that produces regret. Here, regret is result of the unsatisfied desire to do B.

Yet this is incomplete. First, I have to say something about this regret being moral. Zangwill tells us that it is not the best to understand cognitivism/non-cognitivism by the

distinction between cognitive (such as belief) and non-cognitive (such as desire) propositional attitudes. Indeed, the better way is consider the main point: the idea is a metaphysical one, about the world. The question is not about different propositional attitudes, but the content of those propositional attitudes. Thus if cognitivist maintains that moral judgments are beliefs, she thinks that the object of belief is a realistic content representing the world. Now, there is no reason that she cannot maintain that one can have other (non-cognitivist) propositional attitudes to the same "realistic representational content". If we can have moral beliefs, then one can have moral desires too.

Second, I have to say something about William's claim that why a prima facie duty that is not a duty anymore can makes us feel anything-because that was a duty but is not a duty. This account of Ross's prima facie duties is not an accurate and defensible one. This account is partly because of the term "prima facie" that can be misleading. Although Ross himself uses "prima facie", what he means is "pro tanto". Here is the difference: in a dilemma, Sara have to choose between meeting a friend on time (A) and transferring his sick mother to hospital (B). We can say Sara has a prima facie duty to do A and a prima facie duty to do B. also, we can say Sara has a pro tanto reason to do A and a pro tanto reason to do B. In the former, misleadingly it seems that if Sara all-thing-considered have to do B, then the duty to do A is canceled-it has been a prima facie duty, not a real one and now she knows that there is no duty to do B. However, this is not what Ross (and other realists) mean by the term. On the other hand, using the latter term, even if all-thing-considered Sara must do B, the reason to do A is not canceled-but B has override it in this situation. Thus there still is a pro tanto reason to do A, and A is a real duty, though in this situation there are stronger reasons that override it. That is, in a moral dilemma, all the alternatives are real duties and none of them is canceled even if the right alternative is known. In fact, the all-things-considered choices is based on all the pro tanto duties involved in the situation.

IV

It seems that the two objections to cognitivism (and realism) could be met by appealing to our epistemic limits, Ross's ethical theory, and providing an externalist desire-based account compatible with a realist outlook.

However, I think realists can learn from these objections and become a more modest realist. I do not think that these responses by realist can solve all the problems surrounding moral dilemmas. Maybe it is the case that realist can explain why in some dilemmas we cannot find any way to decide-perhaps it is because of our epistemic limits and nothing is wrong with cognitivism or moral realism. They also can tell us why in some dilemmas we can decide and find support for our preferred alternative, yet we feel regret for the missed

alternative-it is because an externalist desire-based account is in need. Maybe they can explain why that regret is rational and moral-it rational because it is result of a suitable procedure and it is moral because of the moral content of the producing desires.

Yet, I think, there remains something unexplainable. This picture has so little to say about cases such as Sophie's Choice. Consider a mother forced to choose between these two options: choose one of his three children and kill him/her or they kill all the children. Certainly, she cannot choose one of his children. There is no way to do that, but it is not simply because of some kind of epistemic limit. (Pretending that "it's just a case of epistemic limits" sounds shocking to me.)

Let me conjecture a diagnosis point: It seems that there is a presupposition here that for all moral situations (including dilemmas) there is the right answer. If this is the case, there should be the right answer for Sophie's choice too, accessible or inaccessible for us. However, I think realists can think more about the presupposition and possible ways to understand it. That might help them in dealing with moral dilemmas-and many other issues in ethical theory, of course.

Infinitism is the Solution to the Regress Problem

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Introduction

In this paper I will argue that since a belief cannot be invoked as a reason for itself and reasons invoked to justify a belief need other reasons themselves, coherentism and foundationalism fail to provide a solution to the regress problem associated with the structure of justification. This is because in the first case circular reasoning assumes the truth of the original belief and fails to generate any additional justification and in the second case the decision to terminate the regress of reasons would be arbitrary and the regress would be resumed once the truth of any basic belief is questioned. I'll then proceed by attempting to defend infinitism as a solution to the regress problem which can explain how reasoning can justify a belief, why there are degrees of justification and how justification can be complete.

The Regress Problem

The regress problem is an argument for a very strong form of global skepticism that denies the possibility of any justified beliefs. According to this argument, since (1) to be justified, a belief requires reasons and (2) reasons themselves need to be justified beliefs (3) therefore, to be justified in believing something, one must believe it on the basis of an infinite number of reasons. But since (4) no human being can have an infinite number of reasons (5) it is impossible to have justified beliefs. Suspension of belief would then seem to be the appropriate attitude to every proposition: if we are not justified in believing anything, we should not believe anything.

Once the regress begins, there can only be three ways to terminate it, none of which are

valid according to the skeptic:

- Foundationalists deny the first premise because they think that the regress terminates in justified basic beliefs.
- Coherentists deny the step from premises 1 and 2 to 3 because they think that a circular chain of reasons can justify a belief.
- Infinitists deny that the skeptical conclusion follows from the premises because they think that an infinite chain of reasons can justify a belief.

Infinitists will take a belief to be sufficiently justified only when we have engaged in providing "enough" reasons along an endless and non-repeating path of reasons. A belief would be completely justified only if every reason in the path were provided. Nothing is ever completely settled, because no belief is ever completely justified, but as we engage in the process of providing reasons, our beliefs become better justified-not because we are completing the task, but rather because we have provided more reasons for our beliefs. How far forward in providing reasons we need go is a matter of the pragmatic features of the epistemic context, just as which beliefs are being questioned or which can be taken as reasons is contextually determined.

Infinitists claim that an infinite chain of reasons can justify a belief because they do not envision justification as a property of a proposition that can be transferred to another proposition. It views propositional justification as emerging when and only when there is an endless set of nonrepeating propositions such that each succeeding proposition provides an adequate epistemic basis for the previous one. Reasoning is often viewed as a means for transmitting justification from reasons to beliefs but infinitism considers reasoning as a means for generating justification.

Historical Discussion of Infinitism

Although there has been some recent interest in infinitism, it has been usually rejected and neglected throughout the history of western philosophy because of Aristotle's objections and it remains a minority view about the structure of justification.

Aristotle objected that infinitism doesn't correctly describe our epistemic practices, that our finite minds cannot grasp or produce an infinite series of reasons and that infinitism cannot explain the origins of justification.

The rationalist and empiricist philosophers of the 17th and 18th centuries were foundationalists, and although they disagreed about the nature of basic reasons, they both assumed the truth of foundationalism and dismissed infinitism.

Infinitist Objections to Foundationalism and Coherentism

Peter Klein is the leading defender of infinitism in contemporary epistemology. In his major works on the structure of justification, he evaluates foundationalism, emergent coherentism, and infinitism and concludes that infinitism provides the best solution to the regress problem because knowledge is inconsistent with circular reasoning, which rules out coherentism, and inconsistent with arbitrariness, which rules out foundationalism. In doing so, he invokes two principles:

1. Principle of Avoiding Circularity
2. Principle of Avoiding Arbitrariness

The first principle rejects circular reasoning as a method of producing justified beliefs. He appeals to this principle as an objection to traditional coherentism. Because emergent Coherentists accept this principle, he invokes the second principle against them.

The second principle requires that a reason be provided for every reason. This implies that only reasons can justify beliefs and there can be no justified basic beliefs. Therefore the choice of basic beliefs in Foundationalist theories of justification is arbitrary. Since emergent Coherentists consider every belief in a coherent set of beliefs to be justified merely because they are members of such a set, they consider all such beliefs to be basic and therefore emergent coherentism should be regarded as a form of foundationalism.

He concludes that the combination of these principles entails that the evidential ancestry of a justified belief be infinite and non-repeating. Thus, someone wishing to avoid infinitism must reject one or both of them. It is the straightforward intuitive appeal of these principles that is the best reason for thinking that if any beliefs are justified, the structure of reasons must be infinite and nonrepeating.

Contemporary Arguments for Infinitism

The Features Argument for Infinitism

Infinitism is the only theory of justification that can explain why there are degrees of justification and how justification can be complete.

It explains why there are degrees of justification by claiming that degrees of justification correspond to the length of the series of reasons you have for your belief.

It explains how justification can be complete by claiming that to be completely justified in believing something you must have an infinite array of adequate reasons for it.

Traditional foundationalism cannot explain why there are degrees of justification because it claims that basic reasons are self-justified because of their truth. But unlike justification, truth doesn't come in degrees.

Metajustificatory foundationalism, which claims that basic reasons must have a certain property, cannot explain how justification can be complete because once it provides a reason for thinking that a belief exemplifies that property and having that property is epistemicly important, the basic belief would be more justified which violates the definition of complete justification.

Regress Arguments for Infinitism

The Enhancement Argument for Infinitism

Only infinitist reasoning can rationally enhance the justification of a disputed claim because coherentist reasoning assumes the truth of the claim and foundationalist reasoning is arbitrary at its terminus (And once the truth of the basic belief is questioned, the regress would start again).

The Interrogation Argument for Infinitism

A belief becomes fully justified if it is supported by reasoning .Adult human knowledge requires this full justification .Since every reason is open to question (Legitimate interrogation) only indefinite reasoning can result in full justification. Therefore adult human knowledge requires an indefinite series of reasons.

The Proceduralist Argument for Infinitism

This argument begins with the claim that knowledge is a reflective success which requires procedure (careful thinking). Proper procedure requires reasoning and every reason requires another reason. Therefore knowledge requires an infinite series of reasons.

Common Objections to Infinitism

The Finite Mind Objection

As finite beings, we cannot produce an infinite series of reasons to justify our beliefs. Therefore infinitism leads to skepticism about justification.

The infinitists have responded to this objection by claiming that we need to access an infinite series of reasons, we don't need to actually produce it.

The Proof of Concept Objection

Infinitism fails to offer a proof of concept because it provides no actual examples of an infinite series of reasons.

The AC/DC Objection

A proposition and its denial can both be supported by infinite chains of reasons but infinitism lacks the recourses to eliminate one of these chains.

The Unexplained Origin Objection

If a reason always requires another reason, infinitism can never explain the origins of justification.

The Misdescription Objection

By demanding reasons for beliefs that cannot be justified by reasons, infinitism misdescribes the structure of reasons supporting our justified beliefs.

Philosophical Inquiry (P4C) for the Classroom

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Philosophy for Children, or P4C for short, is a teaching method based on:

- Group enquiry (working together in a community of enquiry to understand difficult issues/concepts);
- Reflection (thinking about discussions and possibly changing attitudes/actions as a result);
- Developing skills (critical and creative thinking, communication skills and working with others).

P4C was devised in the late 1960s by Professor Matthew Lipman. As a professor of Philosophy at Montclair University, New Jersey he was perturbed by his undergraduates' lack of critical thinking skills. Moreover, he believed that the social and political turmoil that characterized this period in US history was a consequence of people's inability to think rationally and reasonably. Lipman concluded that children need to be introduced to philosophical thinking early on their development and thus Philosophy for Children was conceived as an educational program for 6 to 16 year olds.

Originally based on texts written by Lipman himself, to encourage philosophical thinking, P4C has now grown into a an approach to education, employing a diverse range of resources-pictures books, news, film and TV, music, poetry, the list goes on-as stimuli to encourage children and young people to ask and discuss philosophical questions together.

P4C is based on the principle that children should be given the opportunity to ask and openly discuss questions which are of relevance and importance to them. Regular

engagement in the process of formulating and discussing these questions as part of a community of enquiry develops thinking and communication skills, as well as helping pupils towards a better understanding of the topics they discuss. In addition, taking part regularly in a community of enquiry can help foster an inclusive, supportive and cooperative ethos within a class or even throughout a whole school.

Although it is both welcome and necessary that different opinions are expressed in a philosophical enquiry, this is done in a supportive, non-confrontational way, where the aim is to explore together, as a community, issues arising from a question and to try to draw some conclusions. In this way, P4C helps children to listen to, take account of, and respectfully but critically challenge other points of view. They learn to formulate reasoned arguments and to articulate their opinions to others.

P4C is distinctively different from other dialogical pedagogies. For instance, it differs from debating because participants are encouraged to be open to the prospect of changing their minds as a discussion develops and are not required to take up opposing sides; and although the set up resembles circle time, the emphasis on enquiry, questioning and critical analysis means that P4C is a very different approach.

Multi-dimensional thinking which philosophy for children involves

Critical thinking: What is meant by 'critical thinking'? Characterizations range in complexity from Robert Ennis's admirably brief which says "critical thinking is reasonable reflective thinking that is focused on deciding what to believe or do" to a complex statement by a group of 46 panelists including Lipma himself convened by the American Philosophical Association's Committee on Pre-College Philosophy:

"We understand critical thinking to be purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological, or contextual considerations upon which that judgment is based…. The ideal critical thinking is habitually inquisitive, well-informed, trustful of reason, open-minded, flexible, fair-minded in evaluation, honest in facing personal biases, prudent in making judgments, willing to reconsider, clear about issues, orderly in complex matters, diligent in seeking relevant information, reasonable in the selection of criteria, focused in inquiry, and persistent in seeking results which are as the subject and the circumstances of inquiry permit."

Creative thinking: Lipman says as it is evident, creative thinking is to apply originality, productivity, imagination, independence and experimentation to solve a problem. Creativity begins to manifest itself when one reorganizes the information in hand to go further and gain knowledge by setting criteria, analyzing and making creative judgment. Creative thinking is

when one is able to consider and generate alternative answers, come up with new ideas and make analogies.

Caring thinking in Lipman has the most deal on concern. But what is it? As Lipman says Caring thinking involves learning to collaborate with others in a community of enquiry, developing empathy and respect for others. Discussion in a community of enquiry requires the group to develop trust and the ability to co-operate, and to respect the views of others. They develop insight into the problematical nature of knowledge, and the need to subject what they read, see and hear to critical enquiry. Through this process they develop self-esteem as thinkers and learners. P4c aims to foster two attitudes in general-being mindful of one and of others.

It means being guided by questions such as:

- o What do others think?
- o Can I understand what they think?
- o Can I learn from what they think?

The Structure of a P4C session

- Focusing exercise-sharing the learning objectives, reminding the agreed rules, and using a relaxation exercise or thinking game to ensure alert yet relaxed attention
- Sharing a stimulus-presenting a story, poem, picture or other stimulus for thinking
- Thinking time-children think of what is strange interesting or unusual about the stimulus and share their thoughts with a partner
- Questioning-children ask their own (or partner's) questions which are written on a board, these are discussed and one is chosen to start the enquiry
- Discussion-children are asked to respond, building on each other's' ideas, with the teacher probing for reasons, examples and alternative viewpoints
- Plenary-review the discussion (e.g. using a graphic map), invite last words from children to reflect on the discussion, making links to real situations and possible 'homework'

Why P4C?

Firstly, Philosophy for Children can help enhance communicative skills as well-developed habits of intelligent behavior. These habits of intelligent behavior include being: Curious-through asking deep and interesting questions Collaborative-through engaging in thoughtful discussion Critical-through giving reasons and evidence Creative-through generating and building on ideas Caring-through developing awareness of self and care of others Philosophical discussion develops the kinds of thinking-the capacity to ask and seek

answers to existential questions.

Secondly, philosophical enquiry provides a means for children to develop discussion skills-the capacity to engage in thoughtful conversations with others.

Thirdly, philosophical discussion of complex objects of intellectual enquiry such as stories enhances critical thinking and verbal reasoning-the capacity to draw inferences and deductions from all kinds of texts.

Fourthly, philosophical enquiry helps develop creative thinking-the capacity to generate hypotheses and build on the ideas of others.

Fifthly, doing philosophy with children helps develop emotional intelligence-the capacity to be self-aware and caring towards others, providing essential practice in active citizenship and participative democracy.

Sociology in morality and its priority on sociology of morality

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Introduction

Sociology of morality is an interdisciplinary field that has new issues and little by little has attracted the more attention of both sociologists and moral philosophers than past times.

The basic precondition to find a solution for promotion of moral status in communities is the evaluation of the level of morality. This is sociological studies on moral institutions and relations, and again the condition of this one is, to provide the precise definition of sociology of morality and explain its matters and benefits.

Main discussions of this approach are the relationship between common morality of society and its social structure ,the relationship between Class and morality,the relationship between power and morality and the relationship between economy and morality.

Sociology of morality and sociology of ethical knowledge

Knowledge in traditional views is quite subjective and individualistic but in new views its impacts and effects causes the knowledge to be necessary for sociological analyses (Stark.1958) and in some radical opinions knowledge is seen as a culture (McCarthy.1996).

Ethical knowledge is subject of sociology/ sociology of knowledge and in minimal or radical opinions related to society (Thomas.2006).

The main point is that the subject of moral sociology is not moral actions and reactions that situated in society in objective form but moral sociology exactly studies the moral objective relations that are made by formal behavior. These conducts necessarily are not consistent with ideal and claimed moral theories; in other words, meaning of morality in

sociology of morality is not ethical theory but is morality in practice or practical ethics.

Sociology of morality_ in_

Sociology of morality in sport, media, economy, education, and many other branches of professional or applied ethics helps researchers to improve the accuracy of research but when we, for example, face the term of sociology of morality in science, we conclude that this study is related to level and position of ethics in scientific institutions, researches, and relations (Merton.1973). However, it should not be confused with sociology "in" morality, which it will be discussed later.

Moral Sociology

The aim of sociology in morality is that if a clear sociological view_ even there is no obvious view_ in ethical theory existed, what are its limits and impacts? In fact, does social form and structure of moral agents change the ethical judgments of them? In other words, sometimes we analyze social impacts of one moral opinion by sociology even if these impacts are not consistent with claims and norms of that moral opinion but the purpose of sociology in morality is to make clear social status and its effects on moral theory.

Sociology in morality unlike sociology of morality is not sociological study_ although it uses many of its materials and information (Small.2010); it want to show that what social view is located in foundation of moral systems and what is the significance and impact of requirements and conversions of community in theory.

If we want to show practical reflection of ethical theory in society, in fact, we have entered into field of sociology of morality but the aim of sociology in morality is to understand the society position and explore the sociological approach, which is situated in theory regardless of its practical impact in society.

For instance, we may conclude that in Kantian moral theory, society and its divisions does/ should not have any effect on moral judgments. This is sociology in Kant's ethics but if we go beyond this field and want to analyze the possibility of Kant's ethics in society and its dimensions, in fact, we have turned to sociology of Kant's ethics and perhaps our results of research is incompatible with goals and norms of Kantian view.

Finally, we can say sociology of morality wants to know what the impact of morality on society is but sociology in morality wants to know what is the impact of the society on morality. This study approach through understanding the sociological principles and assumptions that is located in moral systems, which tries to assess the difference of current sociological status with those principles and assumptions and thereby opens the way to correct or improve the ethical theory (Dirbaz & sadeghi.2011).

Obviously sociological vision and components, which are laid in moral theories, are

different from social norms and rules derived from these theories. It is true that one of the best ways to understand the sociological vision, is the analysis of these norms, but sociology in morality seeks a more fundamental and deep conception. It even wants to find sociological roots in individual norms and values of moral theories; because one sociological opinion not only will affect the social norms but also affect the individual norms.

As a preliminary summary unlike the sociology of morality, sociology in morality is:

First, it is a part of moral philosophy and not sociology (emphasizing on the word "in" confirms that this study is a process "within" the scope of research ethics).

Second, in terms of background, it is rather new and more innovative

Third, in term of subject, it follows the feedbacks and reflections of social visions and views in morality and not the feedbacks and reflections of morality in society.

Given the foregoing discussion of our arguments, for proving the necessity of sociology in morality, it follows:

First, base on researches' results of sociology of Knowledge and even according to minimalistic approach in this field (Glover.Strawbridge.1985) it should endorse that theories and theorists are affected by sociological views and social structures regardless of its "amount and type."

Second, even if a small part of rules, aims, and norms of a moral theory were in contrast with a particular society or a sociological vision, inevitably the moral agents, who are following the theory, will have difficulty to operate their morality.

Third, for solving this dilemma the best way is the analysis of the effects and reflections of the social construction on the theories/ theorists and compare it with the social positions and sociological views of moral agents in the present or a particular society that we have called it sociology in morality.

The necessity of the Sociology in morality

When a sociologist/sociologist of morality tries to study the relationships between society and morality by sociological methods and tools, at least several approaches can be obtained by the results of his/her research:

1. Society based approach

This view consider the scale of moral/ anti-moral attitudes of society and its sympathy or hostility toward a moral theory and base on its popularity tries to criticize the theory and tell of its defects or even the necessity to reject it or by being sure of the majority's confirmations with that ethical theory confirms its accuracy and power.

Utilitarianism, Contractualism and ideas that generally know the society or person effective in the formulation of ethics, are more willing to this approach because these views

have not any alternatives for beliefs of person or the majority.

Although they claim that they can morally criticize the conducts of person or the society, regarding their theoretical foundations, when person or majority of society selects another way, they should follow them. Therefore for example John Stuart Mill as a utilitarian theorist, repeatedly emphasizes on this point (Mill.2006) and finally the contemporary Contractualists such as John Rawls selects the decision and agreement of society in specific way for justification of ethics (Gaus.1999).

2. Ethics based approach

This attitude tries a sympathetic approach toward ethical theory and a critical approach toward society and by assuming the validity of this theory, only survey the level of moral commitments in society without checking the practical successes of it in public. Those who believe in religious ethics or the sanctity of ethics and also those who know their theories superior for any reason _ including its rational preferences regardless of its publicity, interests and reactions _ although we will see there is not logical commitments between religious ethics and ethics based approach.

Combinational approach

This view instead of monotonic vision to morality or society attempts to explain the distance between social facts and ethics by a pathologic and critical attitude. It should have:

First: multi factor vision and not single factor one

Second: sympathetic and critical vision to morality and society

Third: case-by-case study and not general one

In fact in this approach neither society is absolute criterion nor morality, by with choosing a fair method, social facts sometimes justified by weakness of moral will (1) sometimes by weakness of moral structure in society(2) and sometimes by weakness of ethical theory(3).

By the first case which is related to topics of psychology of ethics , and by checking the distance between moral motivation and moral action and issues such as will, habit and even the mind, we trying to find the reason for the lack of moral commitment (Thero.2006).

By the second case although again we observe the weakness of moral will, we study this fault in a larger frame and we assume that the moral weakness is affected by weakness of social structure and we do not address every responsibility and fault to the person in the society.

By the third case, we directly criticize the theory but to be sure that we do not impair theories for practical, non-structural and solvable problems, initially it is necessary to test previous cases in each ethical issue.

The main point is that all approaches and specifically combinational approach need sociology in morality although they are part of a moral sociology.

In fact, the sociology in morality by answering these two questions paves the way for assessment of moral status; otherwise, sociologist or ethics scholar cannot identify the society and morality without sociology in morality and also cannot correctly find the weak point and be fair in judgment between moral theories and social facts.

According to all previous points, it can be said sociology in morality is a research field that:

One: explain the amount of social construction's impact on ethical theory/ theorist,

Two: describe the amount of compatibility and requirement between norms, goals, and methods of one ethical theory and a particular social structure.

A moral philosopher or ethic scholar that preferably in terms of sociology have sufficient information and vision and try to help the sociology of morality and display the hidden roots and dimensions of ethical theories should do that.

Sociology in "religious morality"

Believers who think their ethical theory is sacred because that is part of religion and cannot be changed, may conclude that sociology in morality will distort their religion by the development of relationship between religious ethics and facts that is not necessarily commensurate with divine commands and lead to attenuate the core or one of the main components of religion.

It seems that this worry is caused by lack of sufficient accuracy in the meaning of sociology in morality because this investigative attitude equally can implicitly lead to a change in religious ethics and the same amount has the capacity for more perception of religion and its finer points. In other word when sociology in morality comes to ethical theory's field, it only wants to display the rate and type of connection between the society and morality in age of establishment of religion and prove the relationship between religious ethics and social variables, which is not a convincing reason for reform in ethical theory.

Do not forget that there is a long way to reach the reform in ethical theory based on historical and social requirements and specifically several conditions must be provided. These conditions are respectively:

A: prove the compatibility between a part of the morality and a society or social structure (by sociology in morality).

B: prove the impossibility or difficulty of the actual part of morality in current society (by sociology of morality).

C: prove that the distance between the facts and values not caused by weakness of moral

will but the effect of new society's changes (By psychology of morality).

D: insure that proposed alternative for correct or updated ethical theory is in accordance with its general structure and does not disrupt the integration and performance of other sections of theory (by moral study).

As you can see the fulfillment of one the four conditions is related to sociology in morality and it should struggle with sociology of morality, psychology of morality and ethical studies.

Conclusion

Finally, with regard to all expressed topics, condition of moral sociology with deep and diagnostic vision for analysis the ethical status is in the hand of sociology in morality. Perhaps statistical sociology, which just represents statics and reality of society, does not need sociology in morality but analytical sociology that following the causes of events should not ignore the information that is obtained from sociology in morality because studying the moral status of society is incomplete without reflection of moral theory that is prevalent in society.

A new review of Pascal's Wager and the Many Gods Objection

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Perhaps The Many Gods Objection[1] (MGO) is one of the most important objections to the Pascal's Wager. In this paper, we distinguish between three versions of MGO and show that these three versions come sequentially. We, first, argue that the first version of MGO which asserts that Supposition of other possible alternative deities results in non-preferability problem is a wrong formulation of MGO and it should be reformed. Then we show that by reforming of the first version of the MGO the second version arises. This version claims that supposition of other possible alternative deities results in mathematical indeterminacy problem. Then we suggest a solution for mathematical indeterminacy problem. After that, we show that by solving mathematical indeterminacy problem, third version of the MGO arises. This version claims that supposition of other equiprobable possible alternative deities results in non-preferability problem. Finally, we as a response to versions which endorse non-preferability problem show that non-preferability problem is based on denial of a principle which is true.

Pascal's Wager

by considering that:

1. If God exists and S believes in Him, then God, infinitely, rewards S and
2. If God exists and S does not believe in Him, then, God, infinitely, punishes S and
3. If God does not exist, then all things are on a par and finite; Whether S believes in

1. Jeff Jordan nicely distinguishes between two kinds of MGO; possibilist version and actualist version. actualist version is limited to actual religions found in the world unlike possibilist version. By this distinction in hand, we should mention that in this paper we are concentrated on actualist version of MGO. (Jordan, 2006)

God or does not,

We can construct matrix (1):

	God exists	~ (God exists)
Believe in God	$+\infty$	F
~ (Believe in God)	$-\infty$	F

Matrix (1)

If we suppose that the probability of existence of God is p and the probability of non-existence of God is (1-p), EU for believe in God and not believe in God is:

EU (believe in God) = $(P\times\infty) + (1\text{-}P) \times F = +\infty$

EU (not believe in God) = $P\times (-\infty) + (1\text{-}P) \times F = -\infty$

According to EU for each action, believing in God is more rational than not believing.

The Many Gods Objection (MGO)

One of the most important objections to the Pascal's Wager is called many gods objection. The main idea of this objection is as follows:

Matrix (1) has overlooked other possible states of the world. It has limited the states of the world just in tow states: existence of God and non-existence of God. 'God' in matrix (1) has two main features:

4. He, infinitely, rewards believers
5. He, infinitely, punishes non-believers

According to (4) and (5) all supernatural deities who have features (4) and (5) are good candidates for 'God' in matrix (1). If we search among religions in the world we can find some religions which have claimed these two features for their own deities. If so, matrix (1) is flawed. A perfect matrix should consider all possible alternatives. (Voltaire, 1971, p. 280, Stephen, 1898, pp. 241-284)

The first version of MGO (MGO1)

MGO generally asserts that all possible alternative deities should be considered in Pascal's Wager. But what if we consider other possible alternative deities? The answer of the first version of MGO is as follows:

1. Supposition of other possible alternative deities results in non-preferability problem

Some those who have formulated MGO1 hold that (6) (Gustason, 1998, p. 31-39, Saka, 2001, p. 321-324, Jordan, 2006, p. 84-87).

If we suppose g2 with features (4) and (5) rather than Christian God, we can form matrix (2):

	g2 exists	~ (g2 exists)
Believe in g2	$+\infty$	F
~ (Believe in g2)	$-\infty$	F

Matrix (2)

If we suppose that the probability of existence of g2 and non-existence of g2 is respectively q and (1-q), EU for believing in g2 and not believing in g2 is:

EU (believing in g2) = $(q\times\infty) + (1-q) \times F=+\infty$

EU (not believing in g2) = $q\times (-\infty) + (1-q) \times F=-\infty$

Recommendation of matrix (2) is that believing in g2 is as the same rational as believing in Christian God. As Jordan, Saka and Gustason believe; since there is no reason to adopt analysis (1) over analysis (2), there is no decision-theoretic reason to believe Christian God rather than the g2.

An objection to MGO1

I believe that formulating of MGO like MGO1 has a mistake. The main idea of this objection is as follows:

2. Constructing of two matrix, separately, for Christian God and g2 is mistaken

This is because in matrix (1) in state that 'Christian God does not exist' it's not obvious that whether g2 exist or not. Strictly speaking, this state that 'Christian God does not exist' can be divided in two other states:

8. Christian God does not exist and g2 does not exist
9. Christian God does not exist and g2 exists

Therefore; the state that 'Christian God does not exist' is not a determinate state. If so, MGO1 is not a satisfactory formulation of MGO. According to what we said, constructing two matrixes, separately, for two possible alternative deities is mistaken and all possible alternatives should be considered in one matrix.

The second version of MGO (MGO2)

MGO2 arises after reformation of MGO1. The main idea of MGO2 is as follows:

10. Supposition of other possible alternative deities in one matrix results in mathematical indeterminacy problem.

Reformation of MGO1 is very easy. If we gather all possible alternatives in one matrix, the objection to MGO1 will be avoided. Then we have matrix (3):

	Christian God	g2	~ (Christian God) ∧ ~ (g2)
Believe in Christian God	$+\infty$	$-\infty$	F
Believe in g2	$-\infty$	$+\infty$	F
Believe in neither	$-\infty$	$-\infty$	F

Matrix (3)

Given that the probability of existence of Christian God, g2 and neither is, respectively, p, q and r, calculation of EU for each action is as follows:

EU (Believe in Christian God) = $p\times (+\infty) + \{q\times (-\infty) + r\times F\} = \infty-\infty$

EU (Believe in g2) = $p\times (-\infty) + \{q\times (+\infty) + r\times F\} = \infty - \infty$

EU (Believe in neither) = $p\times (-\infty) + q\times (-\infty) + r\times F = -\infty$

According to above calculations it seems that there is another problem rather than non-preferability problem. The statement $\infty-\infty$ is an indeterminate and incalculable statement in mathematics. If so, calculation of EU for believing in Christian God or g2 is impossible. If so, we cannot decide between alternative actions in which to believe.

A response for mathematical indeterminacy problem

If we ponder on former calculation of EU we can find out that mathematical indeterminacy problem is raised because of use of follow principle in our calculations:

11. $n\times\infty + f = \infty$

Where n and f are finite numbers. If we can eliminate principle (11) from our calculations and replace it with another principle we can escape mathematical indeterminacy problem. Our new principle should have two features: first, it should be empty of number ∞ and the second, it should have this characteristic that a small number when summing with a large number can be avoided. Therefor we replace (11) with (12):

12. $n\times A + m\times B \approx n\times A$

If $A>>B$ (read A is very very larger than B) and

$0<n, m^1 < 1$

By these explanations we can reconstruct matrix (3) as follows:

	Christian God	g2	~ (Christian God) ∧ ~ (g2)
Believe in Christian God	+A	−A	F
Believe in g2	−A	+A	F
Believe in neither	−A	−A	F

Matrix (4)

Such that A >> F. by theses replacement EU for each action will be:

EU (Believe in Christian God) = p× (+ A) + q× (- A) + r× F = (p-q) ×A + r× F≈ (p-q) ×A

EU (Believe in g2) = p× (- A) + q× (+ A) + r× F = (q-p) × A + r× F≈ (q-p)×A

EU (Believe in neither) = p× (- A) + q× (- A) + r× F ≈ - (p+ q) × A

According to these new calculations, unlike the former calculations (matrix (3)), EU for each action is calculable and one does not encounter mathematical indeterminacy problem.

The third version of MGO (MGO3)

One might object that although mathematical indeterminacy problem can be solved by replacing (11) with (12) and MGO2 can be prevented, but by this replacement MGO1 emerges again. The main idea of MGO3 is as follows:

13. If possible alternative deities in a decision-theoretic matrix is equiprobable then non-preferability problem arises.

In calculation of EU for matrix (4) if p>q, then EU for believing in Christian God exceeds the other alternative actions and therefore one can decide what to do and if p<q, then EU for believing in g2 exceeds the other alternative actions and therefore one can decide what to do, as well. Hitherto there is not any problem. But what if p=q? Suppose that all possible alternative deities are equiprobable in matrix (4). Then, the result of EU calculations for matrix (4) will be:

EU (Believe in Christian God) = (p-q) ×A + r× F≈ r× F

EU (Believe in g2) = (q-p) × A + r× F≈ r× F

EU (Believe in neither) = p× (- A) + q× (- A) + r× F ≈ - (p+ q) × A = -2pA

As we can see, although EU for believing in Christian God and believing in g2 exceeds EU for believing in neither, but the equality of EU for believing in Christian God and believing in g2 results in non-preferability problem. By using pragmatic reason, one cannot prefer believing one of them rather than the other.

A response to MGO3

Let alone MGO3, for a moment, and suppose that there are some possible alternative deities of which EU are the same and their probabilities are different. In this case we encounter non-preferability problem. George Schlesinger's (Schlesinger, 1994, pp.83-100) response to this kind of non-preferability is based on following principle:

14. If EU for some alternative actions is the same, then, one should perform the act of which probability of success exceeds the others

According to (14) if for two acts, for example believing in Christian God and believing in g2, EU is the same, then one should believe in Christian God if His probability of existence exceeds the probability of existence of g2 or believe in g2 if its probability of existence exceeds the probability of existence of Christian God. This principle is useful when the probabilities are different. But does principle (14) work when the probability of success for all alternative actions is the same? The answer is no. This principle is satisfactory when the probabilities of success for all alternative actions are different. If so, principle (14) cannot solve non-preferability problem in MGO3. This is because in MGO3 it is supposed that all possible alternative deities are equiprobable and therefore the probability of success for all alternative actions is the same. As we can see Schlesinger's response is not satisfactory for MGO3. Is there another principle instead of (14) which can solve non-preferability problem in MGO3? The answer is yes. Consider the following principle:

15. If EU for some alternative actions of which probability of success are equal is the same, then, a free agent can, legitimately, perform any of them. Performing any of them is rational.

According to (15) if we suppose that the probability of existence of Christian God is the same as the probability of existence of g2 and also their EU is equal and exceeds the EU of believing in neither, then, there is not any difference between believing in Christian God and believing in g2. If one believes in Christian God he or she has performed a rational action on the basis of pragmatic considerations, as well as, if one believes in g2. If someone advocates MGO3, he rejects (15). Indeed, he or she has presupposed that by calculation of EU for alternative actions, one action should, uniquely, be recommended. (Gustason, 1998, p. 31-39)

Generally those who believe that the many gods objection results in non-preferability problem should reject (14) in such a case that the probability of possible alternative deities are different or (15) in such a case that all possible alternative deities are equiprobable. Therefore; advocates of MGO3 should reject (15). But they should explain why they reject (15). It seems plausible that (15) is true. Suppose, for example, you are going to buy a car

and there are three choices before you; car1, car2 and car3. Suppose, again, that you are going to decide which car to buy on the basis of pragmatic considerations. Imagine after some pragmatic reasoning, you conclude that first: buying car3 is not reasonable compared with buying car1 and car2 and second: buying car1 is as the same reasonable as buying car2. What do you do in such situation? Do you refrain from buying a car just because buying car1 is as the same reasonable as buying car2? It is apparently obvious that you can, easily, choose a car between car1 and car2, randomly. If you buy car1 you have performed a rational action and if you buy car2 you have performed a rational action as well. What makes your performance irrational is buying car3. Your performance in this example supports principle (15). If principle (15) is true, then, MGO3 does not result in non-preferability problem.

Skolem's Paradox and Mathematical Practice

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Introduction

It is claimed that one of the philosophical conclusions of Skolem's paradox and similar puzzles (if it has any) is that it shows first-order theories' deficiency and inadequacy for formalizing mathematical practice. The adequacy of first-order theories in formalizing mathematical practice has occupied eminent mathematicians and logicians including Skolem, Zermelo, Bernays, Godel and Shapiro (Shapiro 714).

In his paper Shapiro claimed that his argument "rules out any language whose logic is either complete or compact" and then he suggests that "nothing short of a language with second-order variables will do" (Shapiro 715). Since one of the purposes of logic is to codify correct inference, if Shapiro's conclusions were correct, the underlying logic of many branches of mathematics was (at least) second-order (Shapiro 716). One of Shapiro's corroborating premises is that Skolem's paradox and similar puzzles imply first-order theories' inadequacy.

First I will summarize Shapiro [1985]' main points. Then I will introduce new puzzles for some second-order theories which cannot be solved and I will explain why these puzzles can eventuate irrelevancy of Skolem's paradox as a premise to conclude first-order theories inadequacy for formalizing mathematical practice. Finally, I will show that Bay's solution to Skolem's Paradox cannot be generalized to this second-order puzzle.

Shapiro [1985] tried to assess the adequacy of first-order languages in formalizing actual mathematical practice. He concluded that no first-order language is sufficient for axiomatizing such branches as arithmetic, real and complex analysis and set theory (branches

whose languages have "intended interpretations"). He argued that the semantics of first-order language is not adequate for the preformal semantics of mathematical practice.

of the main purposes of an axiomatization for describing a particular structure, an intended interpretation of a branch of mathematics. The Lowenheim-Skolem theorems imply that no set of sentences in a first-order language can be a categorical description of an infinite structure. Following Myhill [1959], Shapiro believes that in order to communicate structures, categoricity is important and thus first-order axiomatizations are inadequate.

In section 2, Shapiro calls different forms of Skolem's paradox such as the forms about finitude, minimal closure and well-foundedness, inadequacies of first-order axiomatization of mathematics' branches. These concepts form an important part of general mathematical practice, but they cannot be formulated in first-order languages. These concepts are clear and unambiguous as for instance when a mathematician asserts something is finite, his listeners understand what he means. It fallows that a language used to formalize mathematical practice must be capable of expressing these properties. But if for each natural number n, there is a model of a first-order theory T in which the extension of ϕ (a formula with one free variable in a theory like T) has at least n members, then there is a model of T in which the extension of ϕ (or the domain of discourse) is infinite. The following second-order formula is satisfied all and only those models of T in which the extension of ϕ is finite:

$$\forall f\,[(\forall x\,(\phi(x) \rightarrow \phi\,(fx)) \wedge \forall y\,\forall z\,(fy = fz \rightarrow y = z)) \rightarrow \forall y\,(\phi(y) \rightarrow \exists x\,(fx = y))]$$

Similarly Boolos [1981] shows that first-order theories cannot express even simple cardinality comparisons as "the extension of ϕ is at least as large as the extension of ψ".

Another example is about minimal closure. Like finitude, this concept is clear and a straightforward compactness shows that this concept is not first-order describable. The fallowing formula characterize the minimal closure of the extension of ϕ under the function denoted by f:

$$\forall X\,\{\forall y\,[(\phi(y) \rightarrow Xy) \wedge (Xy \rightarrow Xfy)] \rightarrow Xx\}.$$

Finally about a well-founded relation, as we know well-foundedness is well-understood. Again a well-founded relation E cannot be characterized in a first-order language. The second-order formula which characterize the well-founded relation E is as follow:

$$\forall X\,[\exists x\,Xx \rightarrow \exists x\,(Xx \wedge \forall y\,(Xy \rightarrow \neg yEx))].$$

In addition to Skolem's paradoxes Shapiro uses other premises for showing first-order theories inadequacy. For instance he compares the second-order versions of arithmetic, Set theory and real analysis with their first-order analogous. After advocating first-order theories inadequacy, in section 3 Shapiro examines several alternatives including infinitary languages,

ω-languages and free-variable versions of second-order language. He concludes that only the later substantially overcomes the deficiencies of first-order language.

The following theorem implies that there is a concept which cannot be characterized by second-order language. Let M be a model of the second-order language, define a cardinal λ to be second-order describable if there is a sentence ϕ of the second-order language (with no non-logical terminology) such that $M \vDash \phi$ iff the cardinality of M is λ. For $n \geq 3$, define λ to be nth-order describable if there is a sentence ϕ of L_nK, with no non-logical terminology, such that $M \vDash \phi$ iff the cardinality of M is λ. One might think that the set of second-order describable cardinals is exactly the set of mth-order describable cardinals, for any $m > 1$. Alas, the following is stated, but not proved, by Montague [1965].

Theorem. Let $n > 3$ and let A be the smallest cardinal that is not nth-order describable. Then A is (n-l)th-order describable.

It is obvious that the nth-order describable cardinal concept, like uncountablity, finitude, well-orderness, etc. cannot be characterized by (n-1)th-order language (Shapiro 141). Thus, this could amount to another form of the Skolem's paradox.

We might appeal the notions "Lowenheim number" and "Hanf number" to formulate this in another form. Although the Lowenheim-Skolem theorems do not hold in the standard semantics of second-order languages (Shapiro, Foundations without foundationalism 86), the fallowing notions are analogues to this results. Let K be a set of non-logical terminology and let LK be a language which contains L1K= (the first-order language) and has a semantics with the same class of models as that of L1K=,

Definition. The Lowenheim number for LK is the smallest cardinal κ such that for every formula ϕ of LK, if ϕ is satisfiable at all, then ϕ has a model whose domain has cardinality at most κ.

Definition. The Hanf number for LK is the smallest cardinal κ such that for every formula ϕ of LK, if ϕ has a model whose domain has cardinality at least κ, then there is no upper bound on the size of the models of K, i.e. if ϕ has a model of cardinality κ or greater, then for each cardinal δ, ϕ has a model whose domain has cardinality at least δ.

The Hanf number and Lowenheim number of the first-order L1K= (and L1K) are $\aleph_0$, however it gets more complicated in the case of L2K for it involves large cardinals. The following theorem proves Hanf and Lowenheim number's existence for LK:

Theorem. If the collection of formulas of LK is a set (i.e. not a proper class), then LK has a Lowenheim number and a Hanf number.

You can find the proof in (Shapiro, Foundations without foundationalism 148).

For a cardinal larger than L2K's Hanf number we can find a model whose cardinality is L2K's Lowemheim number, and this model satisfies "there exists a set whose cardinality

is larger than L2k's Lowenheim number." Again, this is a variation of Skolem's paradox. This could be solved by going to a higher-order theory, but its analogous can be formulated in L3K and again it will be solved in L4K. this implies that Shapiro goes wrong in using variations of Skolem's paradox to prove first-order language inadequacy, as there are infinite such paradoxes in second-order and and higher order theories.

Shapiro may respond that these new paradoxes are not as philosophically valuable as the classical Skolem's paradox, for the large cardinals are not as much involved as concepts like uncountablity. But mathematical practice is not something constant. It is entirely possible that one day, large cardinals are more involved in mathematical practice. Thus variations of Skolem's paradox do not imply that second-order theories are more suitable for modelling mathematical practice (even if they really are).

Bays [2000] provides a solution for Skolem's Paradox and analogous puzzles which involves an equivocation between model-theoretic and plain English interpretations of ∃x "x is uncountable". I argue that Bays' solution cannot be generalized to these second-order paradoxes:

Let $\Omega_E(x)$ and $\Omega_M(x)$ be as in Bays [2000] the pain English and model theoretic interpretations, respectively.

1. According to Bays' formulation of the Skolem's Paradox $\Omega_E(x)$ and $\Omega_M(x)$ are first-order sentences which their semantical difference leads to the Bays' solution.
2. It is obvious that for each puzzle, $\Omega_E(x)$ is at most a sentence in a language with a finite order.
3. If $\Psi_E(x)$ and $\Psi_M(x)$ are plain English and model theoretic interpretations of the statement "there is a set which has a cardinality larger than L2K's Lowenheim number" respectively, an analogous puzzle can be formulated.
4. The puzzle in premise 3 would be solved, if we assume our language third-order.
5. For each n, we can formulate a new puzzle using the statement "there is a set which has a cardinality larger than LnK's Lowenheim number".
6. In order to solve the puzzles generated by premise 5 using Bays' solution, we must assume $\Psi_E(x)$ is n+1th-order, for each n.
7. Thus, there is no plain English language with a finite order in which we can talk in a precise sense about all Lowenheim numbers.

So, Bays' solution cannot undermine these new puzzles completely since it leads to this controversial consequence that there is no particular metalanguage in which we can talk about those Lowenheim numbers.

How ordinary people think of meaning: Towards finding essential properties of meaningful structures in natural languages

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The study of meaning and truth has been of philosophers' concern since ancient times. There is an old tradition of considering some laws of thought which are fundamental axiomatic rules upon which rational discourse itself is often considered to be based. Generally, they are taken as laws that underlie everyone's thinking, thoughts, expressions, discussions, etc. A modern tradition that originated in the early contributions of Frege [1] and Russell [2] in the philosophy of language opened a new window towards a systematic study of meaning and truth, in the light of discussions about sense and reference of linguistic expressions. Depending on how meaning and truth are defined, some theories of semantics consider meaning for expressions without reference, and some would reject such a view. As another approaches to the problem of meaning, we have in one side Chomsky, who in 1957 proposed his idea at [3] about existence of grammatically correct sentences that are semantically nonsensical, by the well-known example "Colorless green ideas sleep furiously." As an example of a category mistake (coined so after Ryle's [4]), it was used to show inadequacy of the then-popular probabilistic models of grammar, and the need for more structured models. On the other side, we have Grice who concerned about meaning in context. In [5] he proposed his so called cooperative principle, which is intended as a description of how people normally behave in a conversation. He introduced four maxims as constitutes of the principle, commitment to which is presupposed by both parties in a conversation, and infringing any of which would result conversational implicatures, which roughly are interpretations made by one of the parties, to make the used statement seem meaningful. One of the maxims is relevance.

In this study, we will consider the above theories concerning different aspects of meaning, in a broad sense. Our primary goal is to investigate how

the (native) ordinary speakers of the languages Persian, English and Turkish-tend to think about meaning and truth in sentences. More specifically, we wanted to know the answer to the following questions: given a grammatically correct sentence with which lacks a specific property-as will be explicitly stated as we go further-how do ordinary[1] people react to its meaning and truth? Do they regard it as meaningful or true merely because it is grammatically well-formed? If the answer is no, what factors would affect their conception of meaning?

Inspired by Chomsky's [1], we hypothesized that more than having a grammatically well-formed structure, there are fixed inevitable properties in many natural languages that participants tend to avoid, in order to call an expression "meaningful". We examined four such hypothetical properties for the three target languages, in the study: contradictions, category mistake, lack of relevance between sentence's parts, and failure of reference for the constitution parts in sentences.

For each target language, an online questionnaire with 8 items was given to participants. Questionnaires were made in the form of documents in the platform of Google-Docs and were spread among participants via online mailing lists and social media apps such as Viber and Telegram, and in some cases, printed and spread by hand. Each questionnaire was designed in two pages, where the first page asked some personal background of the participants such as their academic degree and their major of study. The second page consisted of some instructions about answering the items followed by a caution to the reader, after which the items were began. (See the Appendix.)

In each language's questionnaire, and except for the 8th item[2], each of the items 1-7 was a grammatically well-formed sentence in that language which lacked one of the essential elements mentioned earlier: items 1-3 were self-contradictory, while each of the items 4-6 violated relevance between sentence's components, and item 7 consisted a word without any known/defined reference. For each item, there were considered 5 choices [i.e. meaningful, not meaningful, True, False and Other (with a place to write the answer other than the first four choices)] that however answering to at least one choice was necessary, each participant was allowed to fill out as many as the choices he/she wants, which was considered as a platform for expression of pluralistic thoughts. Besides a place for argument (optional) was sat up in order to let the participants explain their answer.

1. During this paper, this adjective specifies people who has not who do not have professional trainings in the academic fields related to philosophy or linguistics.

2. The 8th item asked the participant to "clarify" a given sentence, due to their own understanding. The purpose of this item is beyond the extent of this report, and is a subject for another investigation. Therefore, in this report, we are merely concerned with the first 7 items.

For each target language, there was a separate questionnaire, including sentences with special properties lack of which were hypothesized to have effects on their meaningfulness. The Turkish version was a translation of the English version, by the second author, which is a native of Turkish, while the English and the Persian versions were created by the first author, who is a native speaker of Persian, with professional background in English. In general, the following number of participants afforded to complete the questionnaires in each language: 87 for English, 86 for Persian and 19 for Turkish. The Persian and English forms were spread online, using social media apps and online mailing lists, while the Turkish forms were spread online and in some cases, they were printed one paper and spread by hands among the locals in Turkey.

As for the analysis of answers for each item, participants were divided into groups of speakers of the three target languages. The general results, as they were expected, show that in each of the languages, most of the population tend to call the sentences meaningless, when the sentences don't have the essential components that were considered. Another considerable result which was not anticipated before doing the experiment, shows that there might be a meaning spectrum in each language: as the items change or get complicated, the percentage of people changes in a considerable way towards the answer choices. The notable fact is that this behavior is universal to all of the target languages, in almost every item. Therefore, it seems that each anticipated component of meaningfulness, bears a meaning spectrum, which ranges probably depending on the internal complexity of the sentence with its special property.[1] The results are observable in the following comparative graphical representation of the data for 4 important answer types.

Besides, results show that there is a direct relation between "meaningful" and "true" answer choices; however, when it turns to the pair "false" and "meaningless" answers, the relation becomes inverse: the more votes go to represent an item meaningless, the less votes target it as false, which by itself can be an interesting subject of investigation for further studies.

Some factors may have affected the results, including the intended hypothesis that meaning can exist out of any specific interpretations (i.e. the given caution). Besides, since we had a wide access to English speaking people via mailing lists with contacts from across the world, there is a chance that some of the participants have not been native speakers of English, where in that case, they will not be appropriate candidates for the experiment4. Finally, since we had less access to Turkish speaking people, the number of their participants is observably less than the other two language groups. It might have been effective on the

1. The authors believe, however, a comprehensive judgment for this issue is not possible at this stage and requires more investigations.

results of compared to the other two languages.

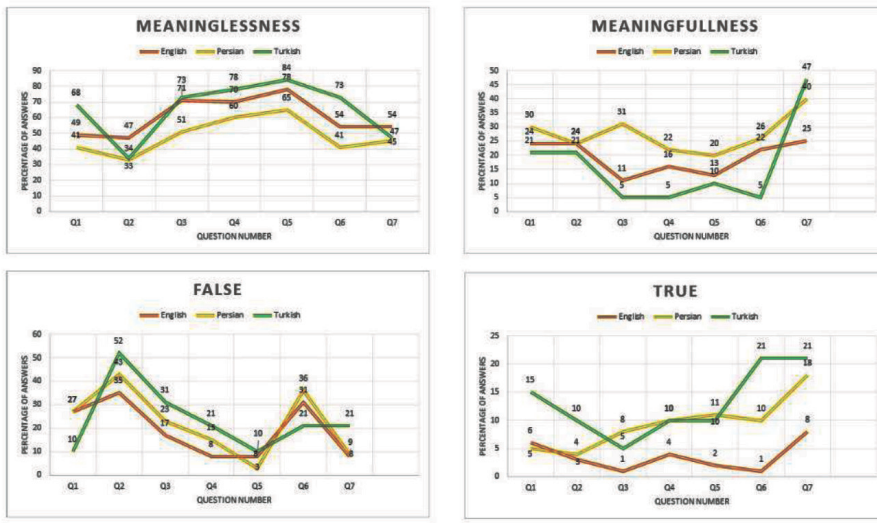

Figure 1- Graphical charts comparing the distribution of answer choices over the target languages. Four notable answer choices are presented.

To conclude, in this study we examined reactions of ordinary people from three languages regarding the meaning and truth of well-formed sentences with specific intended structures, avoiding of which were hypothesized to affect the results. The final results show supportive evidence regarding this: sentences which have any of the four intended properties [i.e. contradictions, category mistake, internal irrelevance, reference failure] will be regarded as meaningless/false rather than meaningful/true by a higher percentage of people. Evidence also show that there is a chance that the nature of meaning inherits a fuzziness: there is a seemingly universal pattern in the responses towards meaningfulness of the items when ranging from item 1 to 7. The pattern is shared by all the target languages. Our guess is that this pattern depends on the internal complexity of the items with regard to the intended properties they have. However, we believe that this problem can be considered as subject of a more comprehensive study for future investigations. Also, there is a direct relation between "true" and "meaningful" answers, while it is the converse, when it turns to the pair of "false" and "not meaningful" answers. Finally, it seems that Gricean maxims-such as relevance-may play role beyond a cooperative principle in a conversational context: they may range over wider contexts as well, such as written language, as is observable in the results of this experiment. We believe, the obtained evidence should be considered in any theory of semantics that is aimed to model natural language semantics.

APPENDIX

Here we represent the items appeared in the questionnaire:

1. The (totally) bald man behind the camera braids his long hair 3 times a day.
   - ☐ Meaningful
   - ☐ Not meaningful
   - ☐ True
   - ☐ False
   - ☐ Other [Type here]

   Argument1 [Type here]

   Not necessary

2. There was a lot of paintings on Berlin wall, including triangles of four sides.
   - ☐ Meaningful
   - ☐ Not meaningful
   - ☐ True
   - ☐ False
   - ☐ Other [Type here]

   Argument1 [Type here]

   Not necessary

3. The bicycle that was talking by an iPhone in its hand is a really good football player.
   - ☐ Meaningful
   - ☐ Not meaningful
   - ☐ True
   - ☐ False
   - ☐ Other [Type here]

   Argument1 [Type here]

   Not necessary

4. Once I liked hamburgers and so, Steve's pet is male.
   - ☐ Meaningful
   - ☐ Not meaningful
   - ☐ True
   - ☐ False
   - ☐ Other [Type here]

   Argument1 [Type here]

   Not necessary

5. While I was drinking soda, America is a vast country; although my grandma makes such soups that you have no idea how hard Tyler punched my face.
   ☐ Meaningful
   ☐ Not meaningful
   ☐ True
   ☐ False
   ☐ Other [Type here]

   Argument1 [Type here]
   Not necessary

6. Last day I and Amir were walking through a humid jungle and while we were talking about the plants there, a shark suddenly attacked our boat and caused Amir to die in that hot desert.
   ☐ Meaningful
   ☐ Not meaningful
   ☐ True
   ☐ False
   ☐ Other [Type here]

   Argument1 [Type here]
   Not necessary

7. George touched the jfgm&&# in a tricky way.
   Supposing that jfgm&&# has no meaning.
   ☐ Meaningful
   ☐ Not meaningful
   ☐ True
   ☐ False
   ☐ Other [Type here]

   Argument1 [Type here]
   Not necessary

The part "instructions" at top of the second page stated the following:

- It is possible to filled out more than 1 answer choice.
- Answers are better to be in accordance with the participant's own knowledge/intuition.
- The participants can optionally argue about their choices.

The caution after the guidelines stated the following: "See each text AS WHAT IT IS. They should NOT be seen as METAPHORS, IRONIES, etc. Do NOT INTERPRET the texts. Just consider each one AS A WHOLE and FREE OF ANY INTERPRETATIONS."

An objection to branching model for time

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Introduction

While Aristotle believes events, pertinent to the future, happen contingently, Diodorus claims at the present time it is determined that the sea battle happens tomorrow or not. He presents an argument which is called "Master Argument." Based on the result of it, these three premises are not consistent.

1. Every proposition that is true about the past is necessary.
2. An impossible proposition cannot follow from a possible one.
3. There is a proposition that is possible which neither is nor will be true.

Diodorus accepts first two premises and rejects the third one. In fact, the definition of the possibility is the negation of the third premise. The possible proposition, from his point of view, is the proposition which is true or will be true in the future. Medieval philosophers were also concerned about these premises. That the propositions about the future are necessary is very close to arguments for determinism. They present arguments in favor of determinism with the help of Diodorus's premises. Contemporary logicians and philosophers have been trying to formalize these arguments with the help of Formal Logic. In many logical systems which are built to reconstruct the arguments, only a special case of first premise is considered. I will present an argument similar to the medieval arguments. In what follows, I will show that some logical systems which are successful in refuting the special case of the first premise cannot refute the general version of the first premise.

New Argument for Determinism

Formalization of the necessity of the past

The first premise of Diodorus is regarded frequently like this:

Every true proposition about the past is necessary

In formal figure we could consider it (see Prior [5]) like this: $Pp \supset \Box Pp$
As I think it is the special version, we could also consider it generally like this:

Every true proposition at a time will be necessary afterwards.

Formally in first order logic we can present this premise as Rescher has done so (Rescher [6], p. 191:

$\forall t \forall t' \{[Tt (p) \& t<t'] \supset Nt' (p)\}$

Here Tt (p) means that p happens at time t and Nt' (p) means that p is necessary at time t'. It must be mentioned that in Rescher's formalization a proposition could be tensed. On the other hand, from a historical point of view a proposition could be necessary at a time while it is not so at another time. Equivalently, based on Prior formalization for this premise, we have these three formulas:

1. $P(x)p \supset P(x)p$
2. $F(m+n)P(n)p \supset F(m+n)P(n)p$
3. $p \supset F(x) P(x)p$

The first formula is considered in all systems. Many solutions which reject the first premise are actually rejecting a special case of this formula. In fact, they think if the proposition, which is in front of a past operator, presents an event about the future, then it can be not-necessary. One of the best criteria is given by Plantinga [3]. He differentiates between hard facts which are about something that has happened in the past and soft facts which are about something that will happen in the future. According to him, if the event of a proposition is pertinent to the past, then the proposition is a hard fact. But if the event of a proposition is pertinent to the future, then the proposition is a soft fact. The hard facts must be necessary yet the soft fact is not necessarily necessary. With this approach the second formula should also be rejected, unless the proposition p is replaced by a formula about an event related to the past before m time units earlier. The third formula is acceptable, although it depends on our view to the present time. The present time is considered often as the last thing which belongs to the past. In all tensed theories about time, present is all or one part of the actual world. Its events are actual and necessary.

Argument for Determinism

In this section I present a new argument for determinism very similar to the argument based on the version of Ohrstrom for medieval argument ([2]). The main assumption which is needed for this new argument is the first premise of Diodorus in general version.

1. Either e is going to take place tomorrow or non-e is going to take place tomorrow. (Assumption)
2. If a proposition is true at a time, then it is necessary afterwards. (Assumption)
3. If e is going to take place tomorrow, then it is true that two days later it will be the case that e would take place yesterday. (Assumption)
4. If e is going to take place tomorrow, then it is now the case that two days later, it is necessary that e took place yesterday. (Follows from 2 and 3)
5. If it is now the case that two days later it is necessary that e took place yesterday, then it is now necessary that two days later e took place yesterday. (Assumption)
6. If it is now necessary that two days later e took place yesterday, it is now necessary that e would take place tomorrow. (Assumption)
7. If e would take place tomorrow, it is now necessary that e would take place tomorrow. (Follows from 4, 5 and 6)
8. If non-e is going to take place tomorrow, then non-e is necessarily going to take place tomorrow. (Follows by the same kind of reasoning as 6)
9. Either e is necessarily going to take place tomorrow or non-e is necessarily going to take place tomorrow. (Follows from 1, 6 and 7)
10. Therefore, what is going to happen tomorrow is going to happen with necessity. (Follows from 8)

For accepting this argument, we must have these assumptions:

A1) $F(x)p \vee F(x)\neg p$

A2) $F(x)P(x)p \equiv p$

A3) $F(x+y)P(y)p \supset F(x+y)P(y)p$

A4) $F(x)p \supset F(x)p$

Considering the above assumptions, we could formalize this argument so:

1. $F(x)p \vee F(x)\neg p$	(A1)
2. $F(x)F(x)P(x)p \supset F(x)F(x)\ P(x)p$	(A3)
3. $F(x)p \supset F(x)F(x)P(x)p$	(A2,substitution)
4. $F(x)p \supset F(x)F(x)\ P(x)p$	(2,3)
5. $F(x)F(x)\ P(x)p \supset F(x)F(x)P(x)p$	(A4)

6. $F(x)F(x)P(x)p \supset F(x)p$	(A2,substitution)
7. $F(x)p \supset F(x)p$	(4,5,6)
8. $F(x)\neg p \supset F(x) \neg p$	(similar to 1-7)
9. $F(x)p \vee F(x) \neg p$	(1,7,8)

In what follows, I will show that Ockham and Thin Red Line systems do not reject the above argument. As a result, there would be two possible solutions. First, we could follow alternative systems like Nishimora's System which Ohrstrom called it Leibnizian system (See Nishimora [1]). Second, we could accept the first premise and follow the solutions based on rejecting other premises like the Principle of Future Excluded Middle.

Appraisal of Ockham and Thin Red Line systems

Ockham system

Based on the Ohstrom's formalization, in this system there is a function called TRUE. It assigns to every proposition in every time the value 0 or 1. The truth function called Ock is defined in the following:

(a)	$Ock(t, c, p) = 1$	Iff	$TRUE(p,t) = 1$
(b)	$Ock(t,c,p \wedge q) = 1$	Iff	both $Ock(t,c,p) = 1$ and $Ock(t,c,q) = 1$
(c)	$Ock(t,c, \neg p) = 1$	Iff	not $Ock(t,c,p) = 1$
(d)	$Ock(t,c,F(x)p) = 1$	Iff	$Ock(t',c,p) = 1$ for some $t' \in c$ with $dur(t,t',x)$
(e)	$Ock(t,c,P(x)p) = 1$	Iff	$Ock(t',c,p) = 1$ for some $t' \in c$ with $dur(t',t,x)$
(f)	$Ock(t,c,\Diamond p) = 1$	Iff	$Ock(t,c',p) = 1$ for some $c' \in C(t)$ v

Time in the future is branching, while in the past it is linear. Every C, which is a maximal ordered set of time points, is a history. In definition of possibility, $C_{(t)}$ is defined as all time points which are equivalent to the time point in which the truth is considered. Two equivalent histories are similar before the time of consideration. For every two histories, their intersection is not null. This semantics system has a tree structure and the necessity in it is meant to happen in all histories equivalent to the history under consideration at the same time.

Now consider the main premise of my argument, namely $F(x+y)P(y)p \supset F(x+y)P(y)p$. Assume that we have $F(x+y)P(y)p$. This means the antecedent is true in the history C1 and at the present time. This means at the x+y time units in the future, p is true at y time units before. This time point is in the history C_1. If we do not have this premise, then we must have the negation of its consequence. Therefore, we must have $\neg F(x+y)P(y)p$.

This means at a point x+y time units later in the C_1 we must have ◊P(y) ¬p. This means at least at a time point concurrent with the considered time (x+y time unit later) whose history is equivalent to C_1, we must have P(y) ¬p. But this proposition links all the points to the same point in which p holds. Therefore, my premise is not rejected.

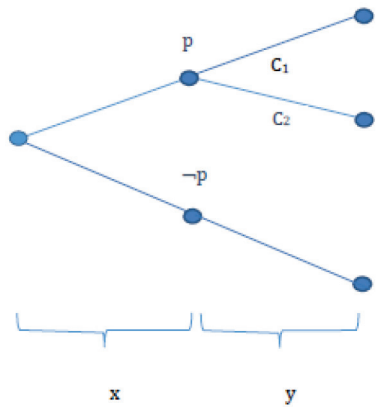

Figure 1

Thin Red Line system

The Thin Red Line system in its first version is similar to Ockham System. In the Thin Red Line, one history is considered as actual world. The semantics in this system is similar to Ockham system. The only difference is in the definition of F(x)p:

Trl(t,c,Fp) = 1 Iff Trl(t′,TRL,p) = 1 for some t′ ∈ c with t < t′

The TRL is the truth function in this system. I must mention the TRL is the actual world or history.

Again consider the main premise namely: F(x+y)P(y)p ⊃ F(x+y) ☐ P(y)p. Assume in Thin Red Line system we have F(x+y)P(y)p. This means the antecedent is held in a history C_1 which must be the actual world namely TRL. This means in the actual world at x+y time units later we would have in y time units earlier p is held. This point is on the actual world. If we would not have this premise, we must have its negation of its consequence. Then, we have ¬F(x+y) ☐ P(y)p. This means in a point x+y time units later in the TRL history we should have ◊P(y) ¬p. This also means in at least one point whose history is equivalent to TRL history at that time, we have P(y) ¬p. But such proposition converges all points to a same point. Therefore, my premise could not be rejected.

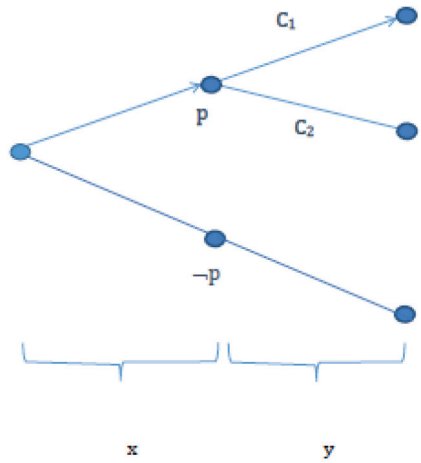

Figure 2

There are also other versions of Thin Red Line. Belnap and Green proposed that we have for every time point (actual or nonfactual) a thin red line.

Therefore, we have a function which defines for every time point a thin red line and has these conditions:

(TRL1) $t \in TRL(t)$

(TRL2) $(t1 < t2 \wedge t2 \in TRL(t1)) \supset TRL(t1) = TRL(t2)$

There are 2 approaches for exact definition of semantics in this system. The first approach suggests similar definitions to Ockhum system unless in the definition of F(x)q:

$T(t,F(x)q) = 1$ Iff there is some $t' \in TRL(t)$ with $t<t'$ and $T(t',q) = 1$

This approach accepts also my argument. In fact, in this system, for all points relative to the past, only one history exists.

Conclusion

Solving future contingency with considering Diodorus premises could be done in different ways. Some of the solutions are based on rejecting the first premise of Diodorus. We could consider the first premise like Rescher. On the other hand, systems which reject the first premise of Diodorus can be divided into two groups. The first group rejects the first premise in all conditions. The second group only rejects the premise in a special case. The first conclusion is that there is a difference between Ockham and Thin Red Line on one hand and Nishimoura, on the other hand. The second conclusion is that only Nishimoura could reject the first premise in all cases.

An evolutionary model for science and problem of progress

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Evolutionary models for scientific change are generally based on the analogy between processes operating within science and biological evolution. Among these models, Hull's model is discussed because it is, in my opinion, the most deliberated evolutionary model for scientific change. The problems discussed here but are general problems involved in the evolutionary models concerning science.

Hull's main claim in his evolutionary model is that there is a general notion of the selection process, which brings about both natural selection process, working on biological units in biological environment, and conceptual selection process, working on conceptual units in scientific environment. Based on the general notion of selection process, he set an analogy between mechanisms of biological and scientific worlds. Accordingly, the working mechanisms in biological evolution and scientific development are the same, have the same rules and logic, and work on units that properly correspond at the abstract level

It is clear that soundness of this analogy depends on how selection agents and rules working in these two domains correspond. Therefore, Hull tried to introduce corresponding constituents in science for the essential concepts used in explaining natural selection process, such as replicator, interactor, lineage, adaptation and fitness. The power of this analogy, therefore, depends on the extent to which these concepts mean and work similarly within two domains. Some cases of dissimilarity, however, challenges this analogy. A case discussed in this essay is that despite the biological evolutionary process, which is known non-progressive, science is a phenomena which inclined to be known progressive. The problem of global progressiveness in selection process is what I'm concerned with in this essay.

This dissimilarity is a result of Hull's two separate claims; On the one hand, he denied the global progressiveness of the evolution and defended its local progressiveness. On the other hand, he saw science as a progressive enterprise which aims to understanding stable regularities of the nature. As a realist, Hull believed that beside variant aspects of the nature, there are some stable regularities, spaciotemporally unconstraind, whose understanding forms the goal of scientific practice.

Hull's solution to this problem was to see dissimilarity not a result of the difference in selection processes themselves, but a consequence of the difference in environments of these processes, thereby tried to save the general concept of selection process (Hull, 1988: 466).

Progress in evolution

Hull disagreed with the "global progress" in evolution, although defended the "local progress" thesis (Hull,1988: 466). As candidates in terms of which progress can be formulated, Hull indicates the number of organisms, overall biomass, number of species, complexity and adaptability of organisms, variety of structural plans exhibited, amount of energy transduced, efficiency of energy conversion and number of adaptive zones and/or niches occupied. However, he finally sees none of them good bearer for global progress , which lead him to the local progressiveness thesis for evolution.

Hull's solution revisited

Hull's solution is to make the environments, in which the processes of natural selection and conceptual selection are operated, responsible for the difference. According to him, while we have a general notion of selection process the differences like progressiveness come back to differences in the environments in which the processes operate. This solution involves a distinction between selection process and environment.

I'll argue against this solution, by providing two reasons that prohibit eliminating the environment from selection process, and when they cannot be detached the general notion of selection process would necessarily ruin. My claim is that selection process both conceptually and causally is tied with environment. Therefore the difference in an important feature of two environments will naturally differentiate in selection processes.

1. Hull formulates natural selection by appealing to two concepts, borrowed from Dawkins (1998), as its basic entities; replicator and interactor. Hull's functional definition underlines the interaction within interactor, and since interaction is an operation supposed to run in relation to the environment, such a definition makes the environment conceptually tied with the interactor. Moreover, this relation is a causal relation, as Hull emphasized in his previous definition of this concept; Interactors are special enti-

ties that "must interact causally with their environments in such a way as to bias their distribution in later generation.

Hence, the nature of varied unites is a result of the interaction between variety of interactors and environmental differences. It means that has insisted on the agent's part and omitted the other feature, i.e. the environment. Besides, Hull's fourth notion in selection process, i.e. the lineage, is formed through interaction with environment too, and as far as selection is done on lineages and they are formed in interaction with environment, the selection cannot detach from the environment. Due to its causal part, consequently, the environment cannot be understood outside the selection process (Cain & Darden, 1988). It seems that excluding the environment from the selection process is possible only for who takes an internalist approach to entities constitutive of natural selection process.

We are in a crucial situation; on the one side, as Hull himself took it, this dissimilarity is so harmful to the structure of analogy that we cannot omit it. On the other side, Hull's solution is not satisfying. The way to escape the dilemma seems to find another way? Let me reconsider the challenge by concentrating on the other side, i.e. the progress in science, to see is it possible to dissolve the dissimilarity by adjusting the idea of scientific progress?

Progress in science

How did Hull believe that science is totally progressive? The stable goal of science, to Hull, is awareness of those aspects of the world that remain constant, something which he called them "spaciotemporally unrestricted regularities in nature". The successive approximations of scientific theories to these eternal, immutable regularities are responsible for global progress in science (ibid:467). These regularities provide for Hull the possibility conditions of nature as the object of nomological, scientific study, while denying them makes both nature (opposed to chaotic universe) and science impossible.

Indeed, I'll argue that according to Hull's understanding of scientific change the idea of general progress of science is controversial. In the first argument, I'll show that history of biology doesn't support the availability of a rectilinear Way to a goal. In the second, I'll argue that Hull's externalist conception of science and his view of conceptual fitness don't allow such a conception.

1. In his account of the controversy between idealist morphologists and evolutionary systematists in nineteenth century, Hull shows that the controversy, rather than being on theories, was on the notion of explanation itself and the nature of genuine science. In fact, not all scientific controversies are about better explanans, but a consider-

able part of them is about the formulation of explanandum in a discipline (Griffiths, 2000:305). The result is that talking about the unique goal and direction for science is not compatible with Hull's historical account of biology.

2. Hull defines fitness of conceptual replicators or ideas, prima facie, in terms of their scope in scientific society, i.e. the idea's domain of applicability by other scientists, its impacts on the other works and references to it. Consequently, the fitness of an idea is measured by its range of influences on the other scientists. As Hull's externalist approach requires, the factors effective on idea's reception by scientists go beyond epistemological features, and include professional interests, discipline relations, education and their genealogical associations.

However, Hull mentions another factor that affect the fitness; *evidence*, which also secure the realistic aspect of his view. Discussing this factor is required when we ask from the frequent references to a theory. Therefore, the adaptation would be a two variable function of credit and scientific evidence (Strelney, 1994: 49). According to Hull's externalist approach to science and considering a part non-epistemological features take in the process of theory generating and competition between them, the evidence are not the only participants in a process of theory selection. Other factors may play further role in producing credit for a scientist. Assuming it, there is no guarantee that the spread of an idea is a result of only its theoretical virtues.

As Ruse argued "at least in theory it is possible that a false idea (judged against the best evidence) gets accepted and a true idea rejected, simply because the false idea is promoted by the scientist with the superior political skills" (Ruse, 1995: 125). So it is not guaranteed that required movement toward the ultimate goal of science i.e. regularities of nature. This problem represents a tension that exists between any externalist conception of science and a realist one.

The consequence of this claim is that like biological selection in which the global concrete goal for tree of life, i.e. the optimal situation toward which those organisms are guided, seems inaccessible, in conceptual selection we hardly can talk about a stable global goal for scientific enterprise. Hence, as far as the evolution is not progressive, science is non-progressive too.

Return to dilemma

However, theoretical progress is not the only possible form of progress in science. There are some philosophers who treat the progress of science in just the same way that G.E. Moore treated the problem of external world. To them the global progressiveness of science is obvious in as much as one prefers to regard the rival's argument defected (ibid). In addition

some prefer to investigate the progress in a long period of time, for example from ancient age to now, and see the overall technological progresses as an evidence for progress of science (Rowbottom,2010). Others prefer to defend the progress in science in terms of its problem-solving effectiveness (Laudan,1978). Generally there are different ways weakening the idea of scientific progress to be more defendable, by leaving a theoretical, cumulative, rectilinear, forward-looking and goal-directing view of progress (Losee,2004).

But, is it possible to save the idea of progress in Hull's framework through such adjustments? As far as the problem is the tension between his externalism and progress, it seems that it is, provided that a condition is satisfied: anything that scientific progress is defined in terms of which must be correlated with credit in scientific society. The reason is to block, in advance, any way in which the progress element and credit might conflict. Understanding progress in such a way undermine the theoretical aspect of progress and underlines its practical aspect.

But can such an adjustment solve the main problem, i.e. the tension between progress in science and biology, to save the evolutionary analogy? To solve this tension it seems that two conditions should be satisfied. First, like the pervious case, anything that scientific progress is defined in terms of which must be correlated with credit in scientific society. Second, science should be understood at least locally progressive. As evolution could be progressive toward a more adapted situation in a stable environment, science could be locally progressive, as far as scientist's credit is correlated with scientific standards, within a paradigm and concerning specific problems. Without these adjustments, there is no way but to reduce our expectation from the evolutionary analogy's effectiveness and be more cautious using it

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An unavoidable inconsistency in Schopenhauer's philosophy

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Introduction

In the world Schopenhauer depicts, man is always involved in pain or boredom. Fulfilling contentment and abandoning the pain seems impossible due to human nature. Schopenhauer, however, in the third book of *The World as Will and Representation* presents the aesthetic contemplation as a unique act, which fundamentally differs from rest of our deeds. In his view, aesthetic contemplation is the only way to escape life's pain. Nevertheless, I believe aesthetic contemplation, as Schopenhauer illustrates, contradicts the essence of his philosophy. Therefore, to prove my claim, I will follow these steps in this paper: First, by examining will as the essence of the world in two realms (phenomenal world and ideas), I will give an approximate picture of the world Schopenhauer presents. Second, I will concentrate on human as a specific appearance of will to extract particular attributes of his acts. Finally, after illuminating Schopenhauer's view on aesthetic contemplation, I will develop my idea that transcending individuality and emancipation from pain by aesthetic contemplation is impossible and presupposes contradiction in the fundament of his philosophy. I think aesthetic contemplation is not an exceptional act, but it is the same as other acts by nature. Consequently, it leads to the same destiny: pain and boredom.

First part: The world as *will*

According to Schopenhauer, the essence of the world is will, which, in itself, is blind, free, infinite, changeless, and a unit that neither has background nor goal. *Will* in itself is a ceaseless striving that reveals itself in two realms[1]:

1. Apparent world: The world including objects, living entities, their acts, and the rules of nature is the objecthood of *will*.[2] The phenomenal world is neither distinctive from *will* nor its effect, but it expresses *will*, which emerges at the place and time under the principle of sufficient reason.[3]
2. Ideas: Schopenhauer considers ideas as a realm between the *will* as a thing in itself and apparent world. Ideas, same as appearances, are will by nature; they are the immediate objectivations of *will*.[4]

Second part: Human as an expression of *will*

Possessing reason and intellect, humans differ from other phenomena of *will*. Schopenhauer, however, argues willing is the essence of humans. Reason and intellect have a secondary role in his nature.[5] The important point in the philosophy of Schopenhauer is that our deeds and behaviors proceed from our intellectual character, not our reason. According to Schopenhauer, whatever we deliberately do is based on a motive rooted in our will.[6] Our individuality, which includes our desires, distinctive features, demands, and so on, is pre-determined as our intellectual character by *will*. Motives are not the essence and real cause of our acts, but "they only determine its expression at a given point in time".[7] It is the intellectual character of each person as a determined, immediate, and unchangeable emergence of *will* (idea)[8] that determines his general attitude in life. It is reason's duty to serve the *will* (intellectual character in this case) by providing suitable motives in various conditions.[9] "Motives do not determine people's characters, but rather only the appearance of their characters; and thus their deeds; motives determine the external shape of the course of a life, not its inner meaning and substance: these follow from the character, which is the

1. Arthur Schopenhauer, The World as Will and Representation (Cambridge: Cambridge University Press, 2010), 177, 187, 189, 335, 338, 347.
2. Ibid., 168.
3. Ibid., 131, 134, 145.
4. Ibid., 191-192.
5. Ibid, 151.
6. Schopenhauer, WWR Vol1, 149; Arthur Schopenhauer, The World as Will and Representation Vol2 (New York: Dover Publications, 1969): 342.
7. Schopenhauer, WWR Vol1, 131.
8. Schopenhauer, WWR Vol1, 183.
9. Schopenhauer, WWR Vol2, 210.

immediate appearance of *will* and thus groundless".[1]

Schopenhauer defines pain as an obstacle in the route of *will* toward its goal.[2] Man is pained until he accomplishes his demand. When he fulfills the goal, the created pleasure would be temporary and will turn to boredom if he has not aimed to another demand out of his nature. That is, "its life swings back and forth like a pendulum between pain and boredom".[3]

Third part: Aesthetic contemplation as the way to escape the pain

Schopenhauer discusses aesthetic contemplation as a unique cognition.[4] According to his philosophy, "all suffering proceeds from willing".[5] We will suffer as long as we are objecthoods of the will. He, however, believes there is a way in which man escapes from the chain of will by transcending his individuality.[6] By this exceptional cognition, the individual will turn to a pure subject of cognition that cognizes the ideas.[7]

In Schopenhauer's philosophy, the main function of intellect (the faculty of cognition) is to understand the objects and the relations between them to help the will to fulfill its needs. But, Schopenhauer claims the story is different in aesthetic contemplation. Through this exceptional cognition, the will-less subject (pure subject of cognition) just looks for knowing the essence of the ideas. "We stop considering the Where, When, Why and wherefore of things but simply and exclusively consider the what".[8] Through aesthetic contemplation "knowledge turning away entirely from our own will" and "all possibility of suffering is abolished".[9]

Now, if the pure subject of cognition is not an individual subject (the apparent and embodied expression of the will), we can consider two assumptions about the whatness of the pure subject of cognition:

1. It is independent of will. Here, the intellect would abandon the will and become an independent substance.
2. It is still an objecthood of will, but as an idea. According to this assumption, the intellect cannot totally escape the domination of will, but it transcends the phenomenal world to the domain of ideas.

1. Schopenhauer, WWR Vol1, 163.
2. Ibid., 336.
3. Ibid., 338.
4. Ibid., 177.
5. Ibid., 256.
6. Schopenhauer, WWR Vol1, 234; Schopenhauer, WWR Vol2, 371.
7. Schopenhauer, WWR Vol1, 201-202.
8. Ibid., 201.
9. Schopenhauer, WWR Vol1, 247.

By analyzing both assumptions, I will demonstrate their inconsistency in Schopenhauer's philosophy:

Schopenhauer argues the essence of human is will and "cognition in general, rational as well as merely intuitive, proceeds originally from the will itself".1 In fact, "by way of comparison, it can be said that the will is the substance of man, the intellect is the accident".[2] So, how is it possible for an accident to become independent of substance? How is it possible for intellect to ignore the will and become the pure subject of cognition?[3] If it is feasible, our cognitive faculty (intellect) is not the accident of will, but it is a substance on its own. (According to Schopenhauer's discussions on the concept of artistic creation, not only the intellect-during the aesthetic contemplation-abandons will and sets itself free, but also it dominates it, since aesthetic contemplation of the pure subject of the cognition prompts the individual to create artistic work. Intellect would be the impellent of will). However, it contradicts the fundament of Schopenhauer's philosophy, which states the substance of the world is merely will and "there is nothing outside of it".[4]

In addition, if the pure subject of cognition is to escape the chain of will, how does Schopenhauer ascribe pleasure and happiness to it?[5] Pleasure and pain are effects of satisfaction or dissatisfaction of will.[6] "When an obstacle is placed between it (will) and its temporary goal, we call this inhabitation suffering, on the other hand, the achievement of its goal is satisfaction, contentment, happiness".[7]

For the following reasons, assuming the pure subject of cognition as an immediate objectivation of *will* (idea) is indefensible:

1. Every appearance has two aspects: Its essence, which is will, and its phenomenal aspect. Now, if we consider transcending the individuality and turning to the pure subject of the cognition regarding human's essence, every individual is identical with the pure subject of cognition by nature. They are the same in essence, which is will. Speaking on turning or transcending to the pure subject of cognition (the realm of idea) is meaningless, since we are same as the idea by nature. Regarding its phenomenal aspect, it would be impossible for an individual to become a pure subject of cognition; it presupposes confusion between two realms. A finite entity cannot be non-finite out of his finite aspect. Schopenhauer's criticism against Kant on free will

1. Schopenhauer, WWR Vol1, 177.
2. Schopenhauer, WWR Vol1, 143.
3. Ibid., 247.
4. Ibid., 179.
5. Schopenhauer, WWR Vol1, 220, 237, 240; Schopenhauer, WWR Vol2, 380.
6. Schopenhauer, WWR Vol1, 345.
7. Ibid., 336.

could be used against him in this case.[1]

2. Schopenhauer argues consciousness and intellect depend on man's body (specifically the brain).[2] The "condition of possibility" of cognition is embodiment, which presupposes individuality.[3] Therefore, ascribing cognition to a pure subject that transcends individuality calls for inconsistency in Schopenhauer's philosophy.
3. Defining the idea, Schopenhauer argues it is unchangeable.[4] However, he claims we, as the pure subject of cognition, approach ideas to recognize them and "letting the whole of consciousness be filled with peaceful contemplation of the natural object that is directly present".[5] But it is impossible, since cognition requires modification in the subject.

Conclusion

Given what I have said, rising above individuality and becoming the pure subject of cognition (under any possible meaning in Schopenhauer's philosophy) is unachievable. The object of aesthetic contemplation could be an idea, but the subject should be an embodied individual. The important point is that cognition is approaching an object, i.e., it indicates intentionality. Hence, it is an action identical to other actions by essence. Therefore, like other acts of the human, aesthetic contemplation is the effect of a motive that corresponds to the person's intellectual character. By recognizing ideas, an individual is looking for the same thing another person does by oppressing people. The goal of both is to fulfill pleasure by satisfying their intellectual character (will). Aesthetic contemplation is an individual act necessarily prompted by will and since "no achieved object of willing gives lasting, unwavering satisfaction"6, aesthetic contemplation is suffering if the goal (cognition) has not fulfilled. And, it will prompt boredom after the goal is obtained.

1. According to Kant, human has noumenal free will. That is, he-regarding his noumenal aspect-can act freely in the phenomenal world, which is under the sufficient principle of reason. Schopenhauer, however, disagrees with Kant and believes his argument's justification is an unacceptable "jump into a different domain". (Schopenhauer, WWR Vol1, 537) In Schopenhauer's view, will is free, in itself, but it does not mean that humans, as an expression of will, act freely, since we act just out of our phenomenal aspect, which is dominated by the necessity of the sufficient principle of reason. Therefore, the fact that will is free by nature has nothing to do with our acts in the phenomenal world. "Regardless of any transcendental freedom (i.e. the independence of the will in itself from the laws of connections of its appearance), nobody has the ability to begin a series of actions from himself alone". (Schopenhauer, WWR Vol1, 537) The "condition of possibility" of every single act (including moral and cognitive act) is being phenomenal (something which is established in time and place under the principle of sufficient reason), so they cannot be related to something non-phenomenal. That is, for the same reason that "being a free noumenal subject of moral act" is impossible, "being an ideal subject of cognition" is impossible as well.
2. Schopenhauer, WWR Vol1, 304; Schopenhauer, WWR Vol2, 201, 212, 213, 394.
3. Schopenhauer, WWR Vol2, 325.
4. Schopenhauer, WWR Vol1, 192.
5. Ibid., 201.
6. Ibid., 219.

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