

Volume XIII ◇ **Issue 2**

2022

Logos & Episteme

an international journal
of epistemology

**Romanian Academy
Iasi Branch**



**“Gheorghe Zane” Institute
for Economic and Social
Research**

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RESEARCH ARTICLES

ANECDOTAL PLURALISM

Daniele BERTINI

ABSTRACT: Anecdotal pluralism (AP) is the claim that, when two individuals disagree on the truth of a religious belief, the right move to make is to engage in a communal epistemic process of evidence sharing and evaluation, motivated by the willingness to learn from each other, understand the adversary's views and how these challenge their own, and re-evaluate their own epistemic position in regards to external criticisms. What I will do in my paper is to provide a presentation of AP and give a few reasons in support. I will begin with showing how pluralism can be promoted by religious experiences inhering in any (historical) tradition. To this regard, my purpose is to analyse such experiences as conducive to the assumption of the two main principles defining any pluralist view. Subsequently, I will construe AP by seven claims, and I will focus my efforts on justifying its superiority both to exclusivism/inclusivism and other varieties of pluralism. My next and final move is to list a few reasons which support my view.

KEYWORDS: analytic philosophy of religion, epistemology of religious diversity, exclusivism, inclusivism, pluralism

1. Introductory Remarks

Anecdotal pluralism (AP) is the claim that, when two individuals disagree on the truth of a religious belief, the right move to make is to engage in a communal epistemic process of evidence sharing and evaluation, motivated by the willingness to learn from each other, understand the adversary's views and how these challenge their own, and re-evaluate their own epistemic position in regards to external criticisms.

The proposal belongs to the pluralist family because it flows from the assumptions that:

1. more than one tradition may secure satisfying knowledge of the divine reality and provide their adherents with salvation (Call this feature *Possibility of Plural Accomplishment*, PPA);
2. it is actually the case that most established religions appear to be as equally valuable in dignity and relevance to human beings' purport (*Equivalence of Religious Relevance*, ERR).

It is a plain consequence of the conjunction of PPA and ERR, that:

3. religious disagreements cannot be answered by merely stipulating that our tradition is epistemically superior to others, and refusing apriori the possibility that

others may be epistemically well situated as we are (*Rejection of Religious Infallibility*).

As for any other pluralist view, the *rejection of infallibility* thesis is a reason for AP's opposition to both exclusivism (i.e., just one tradition is significantly right) and inclusivism (i.e., just one tradition is optimally situated from an epistemic standpoint, although others may be epistemically situated to a sufficient degree)¹. However, this does not mean that AP manages such an opposition in terms of the metaphysically costly claim *that all traditions reveal, target and refer to the same noumenal reality* (Quinn 1995; Soroush 1998; Hick 2004). Rather, AP is a prescriptive epistemological strategy which evaluates deep diversities in religious affairs as an important source of knowledge, and which relies on the exclusivity of truth and common non exotic principles about how to handle semantic and alethic incompatibility of propositions.

The core focus of AP is on the particularities of the epistemic process of evidence sharing and evaluation. To make a long story short, the view is a conceptual analysis of the intuition that religious disagreements are not conflicts over the truth of a proposition which has a definite, objective and unambiguous meaning (instances of mainstream declarations of such an approach are Hick 1983; Alston 1992; Plantinga 2000; Harrison 2006; van Inwagen 2010; Pouivet 2013). On the contrary, religious disagreements are relations between individuals. The intuitions at work are that religious doxastic opponents concretely access the epistemic features of their own tradition in an anecdotal way (consequently, two individuals assenting to the same utterance may disagree over its meaning), and that the seminal claims of a religious doxastic group are constitutively vague (a claim is seminal for a religious doxastic group if mainstream adherents to the group hold that it is mandatory to accept it). Accordingly, when a religious disagreement occurs, opponents are required to engage in an epistemic journey of meaning clarification to the purpose of having an in-depth and fully rational understanding of the issue at stake.

What I will do in my paper is to provide a presentation of AP and to give a few reasons in support. My point of departure is a general statement for pluralism. I will begin with showing how it can be promoted by religious experiences inhering in any (historical) tradition. To this regard, my purpose is to analyse such

¹ Exclusivism and inclusivism can be construed in many manners wavering from hard global definitions (i.e., the whole of a tradition is compared with the whole of another one) to mitigated approaches which focus on parts of a tradition (i.e., traditions are compared in regard to determined claims, doxastic sub-fields, interpretive topics of overlapping ideas, etc.) (McKim, 2012). Since AP opposes any construals of exclusivism or inclusivism, I do not need to confront my proposal with different versions of exclusivism or inclusivism.

experiences as conducive to the assumption of PPA and ERR. Essential to this task is the distinction between different kinds of pluralist responses to religious diversity, which leads me to the characterisation of AP in terms of its affinity to and diversity from cognate views. Subsequently, I will construe AP by seven claims, and I will focus my efforts on justifying its superiority both to exclusivism/inclusivism and other varieties of pluralism. My next and final move is to list a few reasons which are able to support my view.

2. From Pluralism to Anecdotal Pluralism

The ordinary states of facts concerning historical religious traditions (i.e., traditions consisting of a history originated and kept alive by a number of subsequent revelations and interpretations of these) attest that there may be good religious motivations for acknowledging a certain positive degree of religious value to other traditions. The claim is not that religions are always ready to grant their competitors a positive religious value; rather, that at least a few adherents to a tradition grant other religions a positive religious value in terms of reasons which can be found in their own tradition. To my view, this observation has a seminal relevance for how to think about religious diversity, because it attests that the acknowledgment of religious value to the religions of others is a possible outcome for a great number of traditions.²

The following is a (admittedly random) list of examples of what I mean:

1. *Baghavad Gita* IV.11 and *Baghavad Gita* IX.25 declare that different religions are particular paths towards a genuine, although particular, religious experience (Long 2014).
2. By commenting on the seminal notion of *Anekāntavāda*, classic Jain teachers Kundakunda and Haribhadra claim that all religions have epistemic value, notwithstanding such a value is only a portion of the whole truth (Long 2018).
3. While in biblical times Judaism endorsed a commitment towards an explicit version of exclusivism, Jews have always been tolerant and interested in other religions. Particularly, a notable number of rabbis claim that all different monotheist traditions play a substantial role in fighting idolatry and paganism, and, accordingly, have a religious value in their own terms (Cohn-Sherbok 1996).
4. *The Gospel of John* IV presents Jesus' meeting with a woman from Samaria.

² I do not intend to qualify all religions by such a property, because I hold that religions are not abstract objects accountable by definitions in terms of substantive properties which any of them actually shows to possess (Bertini 2019a). As a consequence, when I say that most (historical) religions has the feature just described, I simply mean that it is a possibility that a (historical) religion exhibits such a feature.

Samaritans and Jews adhered to different and competing traditions. Nonetheless, Jesus (who was formally a Jew) seems to have an interest in the religious habits of the woman, and addresses her a revelation intended to overcome both Samaritan and Jewish rituals (Lee 2004).

5. According to the Islamic perspective, Christians and Jews are both *People of the Book*, having this way a mission for the spreading of monotheism around the world (Legenhausen 2013).

Individuals which are orthodox insiders to any of the faiths wherein declarations such as (1)-(5) occur, find in similar texts a reason for adopting a benevolent attitude to the other religions involved. My use of *benevolent* is purely descriptive. That is to say, none of (1)-(5) explicitly prescribes the assumption of normative considerations on the religions of others, namely, you should not draw conclusions concerning how to handle religious diversity from the mere acknowledgement that religions of others may have a positive religious value. Actually, such an acknowledgement is compatible with both exclusivism and inclusivism, because the appreciation of the positive religious value of the religions of others is a matter of degree: the more you evaluate that other religions obtain a high score, the more you stand on the inclusivist side; the less you assign a positive value to other religions, the more you are an exclusivist.³

Nonetheless, from a descriptive standpoint, the benevolence promoted by texts such as (1)-(5) gives a strong testimony that adherents to a tradition may have a focused interest towards the religious lives of individuals from other traditions. Such an interest often fuels the development of multifaceted inquiring attitudes which promote, favour, and enrich knowledge of religious diversity. The more common are: non judgemental interests for different kinds of ritual forms, fascination for the material culture produced under the push of religious ideas, appreciation for convergent moral conclusions argued from an alien standpoint, and attraction for how exemplar acts of others testify a high level of moral dignity.

It is exactly the outcome of this lively, growing and unsystematic movement towards understanding others which suggests to draw a few conclusions from a normative viewpoint. The first step towards pluralism consists indeed in an super-induction from the pervasiveness of similar phenomena to the assumption of ERR. Summing up: revelation texts as (1)-(5) may incline believers to pay attention to the religions of others, and look benevolently at these; such benevolence may originate and nourish a participative understanding of the particularities of other traditions;

³ While irrelevant to the present concern of my argument, I endorse the degree interpretive model developed at length by McKim (2012) as the right mean to provide a taxonomy of answers to religious diversity. I defended such a view in some details elsewhere (Bertini 2016).

finally, such massive acquaintance with diversity promotes the normative super-inducted outcome.

The subsequent move is to adopt ERR as a reason for PPA. It is a triviality that religions play a fundamental role in the lives of authentic religious individuals. This means that faith, group belonging and rituals are essential features of the lives of believers, that is, adherence to a tradition forges to a relevant extent what believers hold to be the case about a multiplicity of matters, how they relate to others, which good they pursue, and so on. Now, if a certain number of religions are evaluated equally valuable in dignity and relevance to human beings' purposes, adherents to a tradition seem to have no reason to leave their own for embracing another. However, most religions have an universalist presumption: they aspire at providing sound knowledge of their referential target and means of salvation or liberation from evil to their adherents. For most historical religions such a claim take the form of a consequence from the benign nature of their deities. That is, how is it that benign divinities giving salvation or liberation from evil reveal themselves within a tradition, and let other traditions to appear equally relevant and nonetheless delusive and soteriologically ineffective? The pluralist holds that the only way to answer in conformity with a consistent understanding of the conjunction of the universalist presumption and ERR is to endorse PPA. Notably, Hick establishes this endorsement as an application of the golden rule: granting to others what we rely ourselves on (Hick 2004, 235).

As many other general theory, pluralism takes a variety of forms. Some think that all acceptable religions do equally well because these correctly reveal the same referential target in a plurality of historically context-dependent understandings; others that all religions do equally well because they reveal their own particular referential target, which is as effective as those of any other traditions in warranting sound knowledge and salvation or liberation from evil. The former are usually called convergent or reductive pluralists, the latter non convergent or non reductive pluralists (Legenhausen 2009; McKim 2012).

Convergent or reductive pluralism is motivated by two main lines of reasoning. From an epistemic viewpoint, the referential target of a tradition is a noumenal reality which phenomenally appears by means of the particular concepts, inferences and other theoretical tools available within the given alethic context. Most pluralists arguing in this way explicitly follow insights from Kant's epistemology (Quinn 1995; Soroush 1998; Hick 2004). From a historically oriented viewpoint, religions show genealogical relations, framework similarities, and overlapping narratives which slightly differentiate by reason of different social contexts. As a consequence, differences between traditions are accounted for by

characterising them as historical presentations of a basic primitive event, structure of reality, or experience (i.e. the sacred, the numinous, the faith) in the religious domain of discourse (Otto 1958; Eliade 1959; Smith 1981).

Critical to such approaches, non convergent or non reductive pluralism is an effort to warrant the assumption of PPA and ERR by freeing pluralism from the difficulties of convergent or reductive pluralism. Such difficulties basically derive from the assumption of an antirealist epistemology, which lowers the cognitive grasp of religious beliefs in order to read content differences in terms of ways of presentation of a noumenal reality. They can be summed up as follows:

a) Delusiveness. Religious beliefs can drive believers to the right positioning in relation to the noumenal referential target of different traditions, but they do not provide any substantial information about the nature and properties of such referential target insofar their content is entirely context-dependent (Harrison 2006; Legenhausen 2009; McKim 2012).

b) Scepticism. Religious beliefs are not delusive by accident. They are necessarily such a way. Indeed, the noumenal referential target is in principle unknowable. (Heim 1995; Harrison 2006; Legenhausen 2009).

c) Irrelevance of disagreements. If religious beliefs are necessarily delusive, differences in religious belief systems do not convey substantial cognitive informations concerning their referential targets (Heim 1995; Harrison 2006; Legenhausen 2009).

d) Soteriological indistinctness. Contrary to the evidence that different religions point at qualitatively different kinds of religious ends, convergent or reductive pluralism supposes that genuine religious experiences are structurally the same (Heim 1995; Harrison 2006; Legenhausen 2009).

Although non convergent or non reductive pluralism actually points at real difficulties of the convergent or reductive one, it is doubtful that the proposal can successfully manage such issues as it presently stands. For example, Harrison's theory is challenged by the very same objections by which Hick's one is faced, because she endorses an explanatory model of diversity much more antirealist than that endorsed by Hick (Bertini 2019b). Things are not better for Heim's proposal, that is, the defence of a deep variety of pluralism (deep pluralism is the claim that all effective religions are equally good paths to actualise a religious form of life, each of them warranting a specific and different kind of salvation or liberation from evil). While the theory seems capable to accomodate difficulties (a)-(d), it looks more an ecumenical invitation to tolerating the idea that different possibilities may actualise different events than a real pluralist theory (for example, it cannot provide support to the claim that adherents to different traditions might learn from each others).

AP overlaps with and differentiates from the above versions of pluralisms. Contrary to both convergent or reductive pluralism and non convergent or non reductive one, AP does not make any positive claim about the metaphysical identity of or difference between the referential targets of different religions.

Similarly to convergent or reductive pluralism and differently from non convergent or non reductive one, AP assumes that religions have strong content commonalities, and, accordingly, that debates between adherents to different traditions may be fruitful in establishing the truth of the matter on a number of common points. That is, AP supports the claim that religions are not absolutely distinct objects standing the one next to the other.

Furthermore, differently from convergent or reductive pluralism and similarly to non convergent or non reductive one, AP denies that such commonalities can be reduced to different context-dependent understandings of the same reality, and, accordingly, claims that beliefs of different traditions can exhibit substantive incompatibility of semantic contents. Concerning the metaphysical frame which the convergent/reductive and the non convergent/non reductive approaches rely on (i.e. religions give voice to the same core of a single divine realm *versus* religions look at different features of either the same core of a single divine realm or the plurality of distinct divine referential targets), AP holds that there is no evidence for taking a reasoned view about the one or the other claim: all we should be contented of is that more than one religion provides sound religious knowledge on the common points, and that non reducible difference should be accepted and profitably investigated without commitment to any definitive metaphysical proposition. In a sense AP grants the non convergent or non reductive party a theoretical advantage: by giving value to the reality of differences, religious propositions are modeled as vehicles of cognitive informations in a way that the convergent or reductive approach cannot explain (due to the antirealist epistemology which the convergent/reductive variety introduces to the purpose of providing an account of the diversity of traditions). Nonetheless, the crucial idea of the proposal goes beyond this dispute. Its motto is: *don't you agree? You should think together, then!* This is captured by the proposition that the main feature of AP is an epistemically motivated invitation to understand differences by departing from a shared investigation context: religious individuals from different traditions accept common core ideas to a degree which makes epistemic disputes over beliefs a profitable mean to increasing their religious knowledge. To my view, a notable consequence of this epistemic practice for dealing with religious diversity consists in that irreducible epistemic religious differences should be treated as alternative paths departing from partially overlapping and partially diverging religious

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experiences. All considered, AP is a strategy for making justice to both a global respect for differences between traditions and for the informative relevance of learning from others.

Finally, AP is a systematic application of the notion that doxastic comparisons between individuals adhering to different religions are constitutively anecdotal in nature, and mainly concern vague propositions which are in need of a clarification of their meaning.

3. Seven Defining Claims for AP

In light of the preceding characterisation, what the theory states can be spelt out by the following claims:

1. In face of intractable religious disagreements, none can presume to be on the right side by assuming the question-begging reason that their epistemic positioning is the better available;
2. We can learn from others in religious matters, and we should do it;
3. Individuals adhering to different religions may converge in establishing a high number of common points from different perspectives;
4. Content differences in different traditions are real and worth-investigating;
5. Understanding the reason of others in religious disputes produces higher-order justified beliefs;
6. Convergent or reductive pluralism is challenged by strong difficulties because of the assumption of a Kantian framework;
7. The non convergent or non reductive strategy has possibly the chance to be on target, but needs an in-depth reformulation to accommodate the evidence that religions are not simply juxtaposed abstract objects, having overlapping features indeed.

The following subsections provide a line of reasoning in support of (1)-(7).

3.1. The Unacceptability of Non-pluralistic Answers to Religious Diversity

The implausibility of any forms of exclusivism and inclusivism relies on that, while exclusivists and inclusivists correctly accept non exotic principles about the semantic incompatibility of beliefs, they assume a strongly exotic principle towards belief-revision in face of disagreements. Ward (1990), Alston (1991), van Inwagen (1996), Gellman (2000), Plantinga (1999), van Inwagen (2010), Bogardus (2013), Pittard (2014), Choo (2018), to mention just a few, all argue that the epistemic response to how to handle religious diversity should flow from the trivial claim that incompatible beliefs cannot be both true at once. I agree with the principle of the

exclusivity of truth, and I cannot see how one could ever deny a similar fact about truth. However, I cannot see how such a principle does have the consequences for religious diversity which its proponents think that it has.

Briefly, exclusivists and inclusivists commonly assume that when two individuals adhering to different traditions disagree, there are no unquestionable reasons for engaging in a substantial revision of their beliefs. Disagreements may cause believers to pay attention to claims challenging their own ones, and, accordingly, to make available their reasons in support of these.⁴ Nonetheless, exclusivists and inclusivists think that the story ends here: there is no normative requirement commanding to achieve a first person understanding of the viewpoint of others, nor to update their own belief in light of reasons and arguments following from such viewpoints, because, given that incompatible beliefs cannot be both true, just one of the doxastic alternatives can be correct.⁵

There are various strategies at disposal. Exclusivists and inclusivists can argue that any epistemic situation permits more than one justified response. As a consequence, given epistemic peerhood between the doxastic adversaries and the fact that neither of the their beliefs prevails after common evidence sharing and

⁴ Essential to AP is the assumption that adherents to a tradition endorse, assent to and argue for their beliefs in an anecdotal manner. Such a claim implies that religious diversity is not a matter of a comparison between traditions in terms of homogenously shared beliefs; rather, religious diversity flows from particular claims whose conflict emerges from the concrete doxastic meeting of real individuals. To my understanding of labels as they are employed in literature on religious diversity, exclusivists and inclusivists commonly spell out diversity in beliefs between two (or more) adherents to different traditions in terms of their adherence to competing traditions. From the viewpoint of AP, this is a categorical mistake. As a consequence, an essential feature of AP is to reject that answers to religious diversity should be developed from a model which grounds diversity on adherence to traditions.

⁵ Some exclusivists and inclusivists deny that adherents to different traditions are peers (e.g., Plantinga 1999; Bogardus 2013; Pittard 2014; Choo 2018); others do think that they are (e.g., Alston 1988; Ward 1990). While those within the former group hold that believers do not have epistemic obligation towards debating with adherents to other traditions (i.e., beliefs opposing their own ones at best provide contingent reasons for considering objections to their own beliefs), those in the latter group should allegedly hold that believers are required to answer reasons of their peers against their own beliefs (Alston 1988). Exclusivists and inclusivists of the former kind are obviously not able to prescribe any form of doxastic comparison. However, neither those belonging to the latter kind are in a better position, because they assume a completely a priori notion of peerhood (Bertini 2021a). Indeed, on the one hand, they idealistically stipulate that believers are peers before engaging in a process of evidence sharing and mutual understanding; on the other, they are not ready to acknowledge that believers of different traditions which assume the viewpoint of others cannot be rational in standing firm after having had an experience of the rationality of the beliefs opposing their own ones.

evaluation, all individuals in doxastic conflict may be justified in standing firm with their belief (Pittard 2014; Choo 2018). For example, each of them may have partisan reasons, namely, reasons based exclusively on their adherence to their own tradition, which cohere with and make intelligible the epistemic situation but are not acceptable unless a believer adheres to the very tradition (Alston 1992; Gellman 2000).

Alternatively, exclusivists and inclusivists can assume that, in despite of appearances, doxastic opponents are not really epistemic peers. According to this assumption, one party is epistemically better positioned than the other one, and, as such, it has a fuller and more adequate access to the relevant evidence (Ward 1990; van Inwagen 1996; Plantinga 1999; van Inwagen 2010; Bogardus 2013).

The former strategy relies on the idea that, in case doxastic adversaries are both justified in holding their belief, if conclusive reasons for one or the other belief lack, than it is irrational to give up your belief, because if you are the right party, you evidently hold the true belief. The latter one contends that justification has features dependent on truth, that is, you cannot be really justified in holding a false belief: something epistemically relevant went wrong for the party accepting the false belief.

AP attacks the assumption that disagreements do not have any normative effect on the investigation of the truth of a doxastic opposition. Common to both strategies for exclusivism or inclusivism is that the way for providing support for the assumption of the view is to suppose that the correct side can ignore the other one by reason of having some kind of epistemic advantage over the rival side, although such advantage cannot be made available to others.⁶ To this regards, the former variety is more cryptic than the latter. Actually, it accepts that individuals of different traditions may be all justified in holding their belief, although it denies that

⁶ The two strategies converge as to their epistemic commands. Alston like exclusivists and inclusivists may suggest that at least a degree of doxastic comparison is necessary before deciding that your views are superior to the rival ones but such a position concedes too little for being of interest to the pluralist: if you hold that your adversaries are as sincere and knowledgeable and as justified in holding their beliefs as you are, and still decide, after thoughtful dialogue and self-reflection, that what you believe is the superior perspective, you are simply saying that your viewpoint is superior without giving any reason in support. Such a move is the end of any dialogue, and it is a matter of fact that doxastic adversaries which are not ready to learn from each other soon arrive at dead trails. AP distinguishes from position as Alston's one in that it does not simply prescribe dialogue in order to establish which belief is correct, but ask believers to understand others because they can learn something from them. Exclusivists and inclusivists as Plantinga (suppose for the sake of argument that a form of inclusivism can be construed in Plantinga's terms) simply stop dialogue much much before.

they stand on equal footing, given that the correct side has access to the true belief. On the contrary, the latter variety explicitly claims that the correct side of a doxastic opposition has sound epistemic insights which the wrong one lacks.

However, an epistemic insight is evidently sound if and only if can be communicated: someone holding that they see how things stand but they cannot explain why their seeing is the sound one, is not arguing for any view, but is simply declaring how they are seeing things without providing reasons in support.⁷ Naturally, the fact that individuals ordinarily rely on partisan reasoning, internal evidence, and first-person belief-forming-processes on a lot of epistemic affairs does not provide any normative reason for epistemically behaving in that manner. The fact may indeed have a descriptive value about epistemic habits, but cannot account for why we should follow such habits. The motive is basically simple: whenever I presume that one of my contested belief is right without providing any other reason for its soundness that I am epistemically better situated than my opponents, my presumption is an evident question-begging assumption: in face of reasons contrary to my position, standing firm on one's own belief without answering those reasons, consists in holding a view independently of evidence (whose consequence is to reject the principle that acknowledgment of contrary evidence is evidence; Feldman 2006). Now, relying on question-begging epistemic habits is not a valid principle for justification of contested beliefs. Conclusion is then that disagreements over incompatible beliefs need a much more sophisticated epistemological approach than comfortable suggestions to begging the question and similar.

3.2. Learning from Others

The point of the matter is that human beings are rational entities: asking and giving reasons for a view are constitutive features of rationality. The common state of facts about the doxastic life of human beings is that we are continuously concerned with declaration of what we believe in and with providing reasons for our beliefs and against those of others. In ordinary matters, disagreements invite to take the

⁷ Exclusivists and inclusivists may hold that one is justified in believing that one's perspective is true even if they do not have reasons convincing to all: all they assume is that they do have reasons that they hope their competitors will consider. Does this suffice to infer that they are not simply declaring how they are seeing things without providing reasons in support whenever they do not consider their adversaries criticisms? The answer is negative because the following three claims are *prima facie* evidently contradictory (taken together): 1) A and B are equally reliable in epistemic matters; 2) A provides reasons x, y, z against B's objections to A's belief that P; 3) A continues to hold the belief that P notwithstanding B advances criticisms against that x, y, and z are reliable reasons for the belief that P.

adversary's viewpoint as a possible defeater for one's own belief. When someone challenges those ideas which have a strong relevance for our understanding of things, namely, those ideas on which we rely for their value in defining our manner to pursue our ends, both theoretical and practical, the common reaction is to defend them and provide arguments and reasons in support. What I'm doing is to call attention to the fact that human beings love and think necessary engaging in debates and comparing their views (this claim seems to apply to any situation, from discussion between friends at the pub in front of a lot of beers to highly technical scientific debates between professionals of knowledge: why should not it apply to religious matters as well?). Such epistemic behavior is based on the shared and implicit acceptance of the epistemic norm that *we can learn from others by debating on controversial issues*⁸.

Now, I see no reason why such epistemic norm should not work for religious matters. Most apologists of either the exclusivist or the inclusivist strategies defend indeed the claim that religious beliefs epistemically work exactly as any other belief within any other domain of discourse does (Alston 1992; Plantinga 2000; Swinburne 2004; van Inwagen 2010). Thus, why should not epistemically act towards religious beliefs as we act towards non religious ones? To my part, while I'm not agree with the claim that religious beliefs are like ordinary ones (actually, I hold that religious beliefs are *sui generis* beliefs because of their constitutive and irreducible anecdoticity and vagueness, that is, the justificatory practices which relates to religious beliefs are *sui generis*; Bertini 2019c; Bertini 2020; Bertini 2021b), I accept that religious beliefs stand in a doxastic public space wherein they are exhibited, upheld and challenged as any other belief is. It is a matter of fact that, contrary to the exclusivist and inclusivist claims that partisans reasoning dispenses a believer from engaging in disputes with adherents to other traditions, ordinarily people from

⁸ Some might claim that inclusivism is the view that we can learn from others without giving up our core beliefs (McKim 2012 provides in fact interesting considerations for such a construal of this approach to inclusivism). Nonetheless, concrete examples of inclusivist authors appear faraway from such a perspective. Shaid Mutahhari and Karl Rahner can be both characterised as soteriological degree pluralists (Legenhausen 2013), and soteriological degree pluralism is a version of inclusivism. Notoriously, they develop the theory of the anonymous affiliation to a tradition, in virtue of which believers can gain salvation although they do not formally adhere to the very tradition. Neither of them, however, seem to make substantially any use of non-native religious doctrines within their theorisation. Another example is Keith Ward's book on *Religion and Revelation* (1994). His Wittgensteinian evaluation of alternative traditions as dependent on opposing forms of life does not leave any place to interreligious constructive dialogue on common points of doctrine across different religions.

different religions and denominations lively engage in such disputes, and think that these are relevant to their faiths.

The strongly exotic principle towards belief-revision in face of disagreements assumed by exclusivists and inclusivists consists exactly in neglecting this common state of facts about epistemic controversies. It can be captured by the following proposition: *whenever you disagree on a religious issue with adherents to other traditions or denominations, you should act in conformity with that you cannot learn anything relevant from them.*

Now, besides that the proposition contradicts the ordinary manner for managing controversial matters, there are seminal specific religious reasons for refusing it. First, exclusivists and inclusivists overestimate the extent to which different religions represent alternative and opposite worldviews. Common approaches attest that adherence to a religion is outlined in terms of the acceptance of a system of epistemic principles shaping how individuals experience and understand their world (Ward 1994; Plantinga 2000; van Inwagen 2010; Pittard 2014). Accordingly, adherents to the same tradition are qualified as agents who share the same epistemic situation by belonging to a common intersubjective doxastic context. Any similar context counts as a discrete conceptual object, and logically differs from any other because either it is epistemically incompatible with other ones (van Inwagen 2010; Pouivet 2013; Pittard 2014) or it is expressive of a form of life which is irreducible to any other (Ward 1994). However, differences between traditions, religions within the same tradition, and denominations of the same religion, are much more nuanced than what exclusivists and inclusivists commonly assume. Actually, historians of religions and theorists of semiotics provide massive evidence for the reasonableness of dealing with different religions in the light of overlapping materials, doctrinal acquisitions from proximal social contexts, and mutual influences (Bianchi 1975; Lotman 2001). For example, religions have often developed within a common background, by addressing the same core of revelation narratives in different times: Judaism, Christianity and Islam are all rooted in a tradition of stories about Abraham, Exodus, Prophets, Jesus Christ, and so on,⁹ most religions which have flourished within the Indian subcontinent relate to the theologies embodied within the Vedic hymns and their canonical commentaries; different varieties of historical polytheism from Indo-European civilities show structural, ritual and content similarities and have carried out cultural effects the one over the others. This being the case, areas of content overlapping are ordinary phenomena concerning religious beliefs of different traditions. As a consequence,

⁹ After Christ Event, the Jewish tradition has mainly developed within Christian settings, and, accordingly, incorporates a theological reflection addressing a number of christological issues.

religions express different viewpoints on their referential targets, but such viewpoints are not incommensurable. On the contrary, practices as interfaith and inter-religious dialogue, scriptural reasoning, and discussions about doctrines between friendly individuals adhering to different traditions, attest that believers may actively and positively engage in religious disagreements by holding that religions can cognitively be compared on a number of relevant points.

Second, exclusivists and inclusivists reason by assuming that there is just one kind of religious diversity, namely, logical incompatibility between the basic diverging framework propositions of the doctrinal systems of different traditions. For the sake of the argument, concede the point against which I moved the preceding criticisms, namely, that religious traditions are alternative and incompatible worldviews. Given this point, if all cases of religious diversity were examples of global religious diversity, it should follow that disputing with others over the truth of beliefs of different traditions would be completely unfruitful. However, I doubt that such a characterisation of epistemic religious diversity works. Suppose indeed that adherents to different religions meet and debate over the truth of a proposition P. P is a seminal claim for one of the tradition, but it is denied by others. For example, P is the claim that there is only one divine entity which can be predicated of being God. In such a case, strict monotheists as Jews and Muslims disagree *prima facie* with Trinity monotheists like Christians or openly non monotheists as Brahmanic Hindus (this example provides an instance of global epistemic religious diversity). But there are different manners of disagreeing over religious beliefs. For example, let P be the claim that a transcendent awareness without content is the only existing reality, and has no proper parts. While Advaita Vedantins accept P, Vedantins adhering to the Viśiṣṭādvaita Vedanta school deny it. Here, we have individuals adhering to the same tradition, that is, the Vedanta one, and a strong difference in the interpretation of the same revelation corpus. This is the interdenominational variety of disagreement: individuals belong to the same tradition, but they differentiate by adhering to differing denominations. Furthermore, disagreements without any normative consequences are common also between coreligionists. Suppose that the contested claim P is the proposition that the Trinity of God should be accounted for by starting from the notion of onefoldness. Latin trinitarians and social trinitarians oppose by reason of their epistemic reactions to P, notwithstanding their shared adherence to Christianity (this is intrareligious diversity). The notable point of the latter kind of disagreement is that it is not possible to split individuals in different groups in terms of their acceptance or refusal of P: within any Christian denomination, some individuals are Latin trinitarians and other are Social trinitarians. Nonetheless, disagreement over

the nature of the Trinity is neither a peripheral and irrelevant issue, nor a topic whose solution seems comfortably at hand. This being the case, it is not clear why we should deal with epistemic disputes in conformity with the reduction of religious diversity to a hypersimplified model as the exclusivists' and inclusivists' one is. However, once that the model fails to account for religious diversity, it follows that there are no clear reasons for denying that individuals adhering to different traditions can learn from each others.

Third, a multifaceted and empirically informed notion of religious diversity shows that not all disagreements, even when they are deep and concern fundamental issues, produce normative insights towards the doctrinal identity of groups. In addition, an high degree of epistemic diversity is tolerable within any group, namely, contrary to substantive assumptions about the nature of religions, internal epistemic variability is the ordinary state of facts of any tradition (Bertini 2019a). Once again, this suggests that, if religious diversity is not always a matter of global comparisons, exclusivists and inclusivists should provide an argument for denying that you can learn from adherents to other traditions, given that debates between coreligionists who dissent over fundamental beliefs recur within any tradition, and such disputes are usually thought useful to increasing religious knowledge.

Fourth, according to the exclusivists' and inclusivists' claim that we cannot and should not learn from others because disagreements over framework beliefs involve incommensurable viewpoints, any kind of religious reasoning would be affected by an unpalatable dose of subjectivism. Internal epistemic variability being indeed the ordinary state of facts of any tradition, coreligionists dissenting over fundamental beliefs would give voice to incommensurable viewpoints on fundamental religious matters. Actually, any tradition is a doxastic battlefield between groups and individuals for the establishment of the correct reading among a plurality of competing interpretations of the same verbal utterances (i.e., individuals adhering to the same tradition all accept a set of framework beliefs, but give such beliefs a different meaning and provide justification for them by means of a particular access to evidence, none being able to manage completely the extensive mass of religious knowledge developed along the historical grown of the very tradition).

Admittedly, exclusivism and inclusivism can be construed in a way which results friendly open to diversity. According to such a construal, they might be qualified as exploratory strategies which accomodate the idea that a tradition is superior to others only in regards to a determined issue. Moreover, superiority may be a matter of degree. The crucial point is to appreciate that they 'might be thought of as an interim response, as a starting point for reflection that is endorsed even while

it is recognized that a further reflection is needed, and even while hoping to engage in this reflection in the future' (McKim 2012, 34). Unfortunately, such characterisation seems unable to pick out any real exclusivist or inclusivist proposal in literature (as McKim 2012, 30 recognises), and, consequently, looks more like an act of wishful thinking than a legitimate interpretation of the matter at dispute. Mainstream exclusivists and inclusivists, even when they are ready to acknowledge a certain degree of truth in points of other traditions which are similar to their own, do not commonly focus on that their tradition is superior to other ones because of its overall sum of epistemic success, in despite of the possibility that on a number of beliefs adherents to the sound tradition might be wrong. On the contrary, they assume that, independently of the possibility of epistemic failure on local points, the epistemic position of the sound tradition is unsurpassably better than, and definitely incommensurable with, that of the competing ones. My conclusion is then that what a friendly-to-diversity construal of exclusivism and inclusivism gives value to, namely, that whoever holds a belief is *prima facie* an exclusivist towards the truth of their belief, is certainly secured by admitting that doxastic conflicts do not involve a spineless approach promising a half-way truth; although a rigorous approach to such a requirement is better pursued within a pluralist setting, given the inconclusiveness of shared evidence for competing beliefs.

3.3. Convergent Doxastic Commonalities across Opposing Belief Systems

In order to understand why pluralism is the best strategy for religious knowledge and cognitive enhancement of differences in a way which do not relinquish and conflict with the normative triviality of principles as the exclusivity of truth, suffices to investigate disagreements between religious individuals in terms of a notion of religious diversity sensitive to how religious traditions actually work. The assumption of (3) and (4) depends exactly on such a move, which I will briefly justify now.

The mainstream approach to the religious diversity scenario can be captured by the following proposition: diversity between religions is a matter of an incompatibility in the doctrinal, ritual and institutional bodies of them. Accordingly, religions stand in epistemic, ritual and institutional relations of opposition.

The following are a few considerations against such a mainstream approach. First, the way in which differences between religions are discovered, experienced and understood depends on how individuals from different traditions become acquainted with and are exposed to the religious lives of others (Bertini 2019c). Such an exposition is anecdotal in nature. Individuals do not indeed access the whole doctrinal, ritual and institutional body of their religion. It follows from this that

whenever someone detects a difference between their religious life and those of others, they do not detect a difference between religions as abstract conceptual objects, but they access a difference between religious experiences of concrete individuals.

Second, internal variability within a tradition cannot be rendered by means of a cognitive reduction to a unambiguously shared view among its adherents. As seen above, intra-religious disagreements are ordinary and constitutive events for any tradition. They are attested both within revelation texts, which often present a plurality of competing understandings of the religious core of a tradition, and within the historically growing body of exegetical, theological and liturgical literature over revelation materials. From an epistemic viewpoint, such disagreements appear structurally similar to inter-religious ones: local differences within a religion (e.g., a point of doctrine longly disputed by a plurality of competing standpoints) are given exactly in the same manner as external differences between religions sharing a basic belief (e.g., all monotheist religions accept that there is one and only one divine entity, although they develop such a belief in a plurality of different ways). This being the case, if disputes over points of doctrine between coreligionists make sense and reveal epistemic commonalities notwithstanding the incompatibility of their views, the same should hold for disputes between adherents to different traditions.

Consider a few reasoning in support. Within any historical tradition, revelation corpora are collected among a mass of competing materials by means of a literary process. Ordinarily, religious elites use oral narratives, texts and ritual interpretations of these to the aim of providing a compelling understanding of the meaning of life, nature, and history. Different communities living within either the same environment or proximal ones, adopt divergent and overlapping materials at once. The establishment of a canon of holy texts consists commonly of discriminating among such materials and listing which of them count as religiously normative. While the community operating the normative choice of materials aims at conceptual unambiguosity by adopting sometime a rule for fixing an in-or-out distinction, different religious attitudes, notions, and theological insights are preserved by the chaotic juxtaposition of such heterogenous texts. Revelation corpora constitutively give voice to a plurality of multifaceted religious experiences and understandings of seminal events, as attested by the different texts which a plurality of communities liturgically uses for keeping the memory of them alive.

I will make the case for my considerations by focusing on the Hindu tradition, and by assuming that my conclusions can be generalized to any historical tradition.¹⁰

¹⁰ Some may think that the Hindu tradition in particular and Eastern religions in general are incommensurable with Abrahamic religions by reason of that, while the former are more

Let's have a look at some facts. The grounding text for most religions flourishing in the Sub-Asian continent are the hymns collected under the name of *Samhitā*. Such hymns are picked out from oral traditions coming to a definitive form along an extended period of time, and are devoted to a plurality of deities. Each of these entities presents a very complex nature, expressing a sum of different and sometimes opposing features (Macdonnell 1897; Klostermayer 1984). I confine my exemplification to the most important divinity of the first book of hymns, that is, the *Rgveda*. Indra is the elective Lord of the Gods, is a fearless warrior defeating the primordial beast which prevents the world from being ordered, is the controller of rainfalls, and is the giver of agriculture to human beings, among other things. Evidently, each of these features attests a peculiar experience of the power of Indra over the world, and, accordingly, expresses a peculiar theology which focuses on a distinctive trait. Such traits belong to a range of continuous representations providing competing and related precisifications of the meaning of the experiences related to the very same source (Bertini 2020). Therefore, it is reasonable to suppose that different proximal communities used overlapping materials about Indra within slightly different but communicating epistemic contexts.

It is particularly relevant that prominent deities of the *Rgveda* progressively lost their prominence in later stages of the establishment of the revelation corpus (e.g., the *Sāmaveda* attests Agni, which is Indra's brother, as main character). Think to Agni's characterisation: he is a warrior too, is the Lord of fire, but its main relevant feature is to be the one who makes sacrifices effective, and sometimes is the divine officer of sacrifices, is individuated as the sacrifice itself, as also the efficient vehicle of this, that is, the soma. As such, the emergent relevance of Agni over Indra shows that a ritual theology of sacrifice overcame a theology of thanksgiving. It goes without saying that this fact implies an in-depth difference in religious attitudes, in the meaning of ritual acts and religious ideas, and in manners of living religiously.

concerned with experiences than beliefs, the latter are more concerned with beliefs than experiences (according to such distinction, polytheist systems of beliefs are not to be considered religions at all, since mythologies differ from religions in terms of not being the subject of a historical revelation; a seminal examples of this attitude is Lévy-Strauss 1968; Lévy-Strauss 1974). I provide detailed historiographical arguments in support that any historical religion is internally pluralist from a doxastic viewpoint in Bertini 2016. I exemplified the claim that the revelation corpus of any historical tradition undergoes a historical negotiated construal which preserve and nourished a plurality of doxastic interpretation by giving an account of the pluralist origin of Christian theology in the second and third century debate on the *Gospel of John* in Bertini 2010 (my expertise as historian of theology is limited to the Christian tradition, and, for this reason, I suppose to have something rationally grounded to say on this topic alone). Finally, I argue for that Christianity and mythology epistemically work in the same manner in Bertini 2007.

As a consequence, such difference possibly rises doxastic conflicts. The next step in the establishment of the Hindu canon is the supplementation of the hymns with commentary materials from a multiplicity of Brahmanic schools, collected under the titles of *Brāhmaṇa* and *Āraṇyaka*. Finally, further commentaries added the corpus, that is, the *Upaniṣad*.

The evident conceptual heterogeneity and semantic ambiguity of this revelation corpus has promoted a massive interpretive work which originated both different schools of brahmanic exegesis (Larios 2017) and the generation of reactive religious movements as Shivaism, Vaishnavism, different Vedantin philosophies, as well as Jainism and Buddhism. In some cases these movements flow from integrating non-Vedic sources coming from local traditions within the brahmanic mainstream, in some others they evidently reject the centrality of the brahmanic authority to the advantage of exogenous traditions (Davis 1995; Sharma 2003; Sanderson 2009; Bisshop 2010; Long 2014). As a result, the outcome of these longstanding processes of canon establishment is that a complex multiplicity of different viewpoints shapes a very variable core of externally related fundamental materials, claims for themselves the status of a theological authority, survives the accidents of history, and attests what counts as a legitimate source of religious experience and what does not.

The moral of the story is that the revelation corpus of the Indian sub-continent religions does not stand at the beginning of a historical trajectory as an unambiguous set of core beliefs which give voice to a worldview shared among coreligionists. Rather, a constitutive doxastic plurality is established within the corpus by means of a continuous negotiation of the meaning of texts and rituals and the addition of new revelation materials to the old ones, and emerges by an extensive interpretive work intended to cut off vagueness of understanding and potential religious disagreements over fundamental matters.

This being the case, a pluralist environment wherein overlapping framework assumptions and distinctive claims are blended into a cocktail of different doxastic systems, constitutes the core source of the Hindu tradition. This suggests that the religions flourishing in this religious context should not be considered as unified conceptual objects embodying and expressing opposite worldviews. Particularly, it does not make sense to characterise disagreements over apparently incompatible beliefs in terms of incommensurability, logical mutual disjunction, or similar. On the contrary, doxastic groups adhering to one or the other interpretation of the revelation corpus exhibits similarity by reason of reference to the same textual and ritual sources, exemplar narratives of religious experiences, and core interpretive

exegesis; and they exhibit differences by reason of distinctive approaches to the understanding and appropriation of such items.

Now, religious individuals commonly adhere in an explicit manner to a determined religion, which implies assenting verbally to a sets of core beliefs. However, even in case of explicit groups-belonging, intra-religious differences matter and are nourished by the impossibility of a complete access to the mass of historical interpretive works and of the total availability of the different experiences involved. My claim does not rely on considerations on the differences in epistemic capabilities plus the privateness of personal experiences: it does not oppose Wittgenstein's argument against private language, for instance. Rather, it assumes that any epistemic practices is public in nature, and applies such assumption to the domain of religious thinking. It is exactly such publicity which produces the anecdotal nature of religious experiences. Individuals are indeed in front to a body of evidence which is intractable by reason of its extensive lack of bounds. As a consequence, they react to such lack of bounds actualising one concrete epistemic opportunity among a plurality of meaning precisifications.

3.4. Investigating Differences

It follows from such a claim that religious disputes over controversial issues do have epistemic momentum, and do have vital relevance. Actually, if the revelation corpus of any historical tradition embodies internal doxastic differences in such a way that religious plurality is constitutive of historical traditions, the clarification of the meaning of religious beliefs appears to be an essential feature of faith. Concrete disputes between real individuals provide a context for such clarification. Such disputes are not logical controversies about the semantics of beliefs, nor neutral weighting of evidence which sustain the opposing beliefs. Rather, individuals should make an experience of the particular viewpoint of their opponent in order to benefit their arguments, reasons, and manner of qualifying the matter at stake (Bertini 2019c). Given the constitutive plurality of doxastic views within any tradition, religious beliefs are indeed constituted by an essential imprecision of their representational content. Vagueness is not here the outcome of a Quinean scenario charcaterised by paucity of evidence (Quine 2013). On the contrary, vagueness supervenes over religious beliefs by reason of the extreme abundance of evidential interpretations of their semantic ambiguity (Bertini 2020). Investigating such a vagueness is a necessary step to determine what individuals accept in assuming their beliefs. This means that they can learn the one from the other by comparing their different understanding of common points (this is what (3) asserts) as well as that they can pursue an in-depth account of their beliefs by excavating relevant

particularities (this is what (4) asserts). Consequently, disputes are essential to religious faith.

3.5. Higher-order Justification Practices

Claim (5) highlights what a pluralist attitude to the anecdotal nature of disputes and of acceptance of religious beliefs promotes. As seen, diversity in religion is a mixture of different perspectives on divergent points and fluctuating commonalities in proximal narratives and arguments. Others give us the opportunity of being acquainted with a concrete particular justification of a religious belief. On the one hand, doxastic opponents can enrich the evidential body for their belief when this concerns similar contents. Such enrichment consists of those particular reasons which may have remained ignored if a relevant controversy would have not made them explicit. On the other, a fruitful evidence-sharing process deepens the possession of criticism, objections, and favours rational responses about what remains outside the possibility of an agreement. Accordingly, the particularities of the epistemic encounters between individuals provide experiential substance to the evidential epistemic support.

3.6. The Flaws of the Kantian Approach to Pluralism

Essential to AP is the assumption of a realist epistemology. Its endorsement of the exclusivity of truth involves that religious beliefs do have semantic value in representational terms. As a consequence, AP accepts that a religious belief is true if its content conveys a bit of informative representation of how things stand. This marks the refusal of convergent or reductive approach to pluralism by reason of their commitment to antirealist readings of Kantian epistemology. I have already mentioned the most relevant reasons against such antirealist approaches in the previous section. Therefore, my line of defense for (6) is established.

3.7. Diversity Does not Imply That You Have not Anything in Common with Others

Finally, the assessment of reasons in support of the claim that any historical tradition is constitutively a pluralist environment is a justification for the dissatisfaction with versions of non convergent or non reductive pluralism on the marketplace.

4. Three Epistemic Reasons for AP

I will conclude by a very succinct reference to three epistemic reasons which sustain the assumption of AP. First, external viewpoints are sources of epistemic benefits, mainly related to enlarging the evidential body and furnishing corrective means for

bias and explicit cognitive prejudices (Dormadandy 2019). Someone who reasons from a perspective alien to our own can make us perceive something on which we are not focused when isolated in a first person reasoning. Second, individuals adhering to a different tradition may be recipient of great esteem for their exemplarity, of cognitive admiration for their being acutely versed in doctrine and knowledge, and of enthusiastic acknowledgement for their capabilities in handling ideas stimulating an insightful understanding. In such a case, their testimony in support of a determined view is a reason for evaluating their arguments, and make them playing a role in the assessment of our belief. Third, differences in pursuing an epistemic task may be the subject of informative interest because of their achievements in fields of inquiry with which we are not ready to engage directly. Considered together, these three epistemic reasons encourage individuals to search together in face of a persistent disagreement by reason of the fact that alternative standpoints originate better understanding on the matter of the controversy, and, accordingly, more justified beliefs on its content. As such, they are therefore supportive of strategies as AP.

Now, while literature abounds about the first and the second epistemic reasons, it seems there is something to say about the third one. I will move from some biographical details. I have been enthusiastically playing rugby for many years in my life. After my retirement, I became a coach, and I have subsequently trained both female and male teams. Anyone who has lived the world of rugby knows that you cannot ever be freed from it; it is not by chance, I suppose, that French language refers to people playing rugby as *rugbyman* (and not rugby player). Actually, if you have played rugby, you never stop to be a *rugbyman*: rugby conveys a culture, is a way of life in a substantial sense of the term, and grounds relationships to your team-fellows which will last forever. To make a long story short, rugby is a fundamental part of my life, and has much contributed to the development of my identity as a human being.

However, I like many other sports too, although I do not practice them. Particularly, I have an in-depth esteem for a lot of things which I can found virtually in any sport activities. I appreciate athletes for the abilities which are actualised and enjoyed in performing their disciplines; I am moved on epical fights for winning a match; I appreciate loyalty and commitment necessary to achieve results. Naturally, each sport actualises its particular system of rules, athletic gestures, and specific values; briefly, each sport substantiates a particular world. All sports constitute then specific experiential realms, overlapping in their features for certain respects, opposing each others for other ones. Is this a reason for thinking that a rugby player, a swimmer or a tennis player have nothing to learn the one from the other? Or that

they should practice their sport by ignoring that other physical activities can accomplish strongly exciting, instructive and valuable results?

A positive answer to these question sounds odd. Sports have something in common and specific particularities. However, they can all be enjoyed, and some experiences peculiar to one of them can be fruitfully integrated in others, notwithstanding differences. The admiration for individuals performing a sport are often the medium which introduces us to that world, and give sometimes interest in learning how to perform it. This sport analogy points exactly at what I mean by the third epistemic reason in support of AP:

1. I can appreciate domains of inquiry which fall outside my training, expertise and direct interest, in few words, that fall outside my previous experiences;
2. Respectable individuals engaged with such domains promote an interest towards their experience;
3. I can learn from them notwithstanding our differences;
4. I can learn from them if I am ready to make the relevant experience.

For example, I can understand why tennis is valuable and instructive on sport values in general when I begin playing tennis: reading a book on tennis does not help here. An experience orientated by someone who knows the matter is essential. It is after this experience that reading becomes properly an indispensable mean to increase competence and understanding. Naturally, I cannot play all sports, and I could be legitimately disinterested for some of them. However, there are not principled reasons for denying that I can increase my experience of my own sport by acquiring knowledge of other ones: they can provide understanding of facts similar to both and they can be appreciated even if they do not have much in common with my own one, because they can actualise something whose outcome are of high value.

Religious diversity can be approached by a standpoint not faraway from such a one. AP asks to consider this possibility: learning from those others we encounter in our life who are capable to induce us an interest towards their experience; accepting that we can have enough in common to achieve a better understanding of our faith and a more refined justification for our beliefs; acknowledging that others may actualise something different from and exotic in respect to what we believe, but, nonetheless, expressive of dignity and truth.

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WHY FALLIBILISTIC EVIDENCE IS INSUFFICIENT FOR PROPOSITIONAL KNOWLEDGE

Elliott R. CROZAT

ABSTRACT: In this article, I argue that fallibilistic justification is insufficient for propositional knowledge if veritic luck is involved. I provide a thought experiment to demonstrate that even very strong non-factive evidence is insufficient for knowledge if veritic luck is present. I then distinguish between precise justification (PJ), which I suggest is required for knowledge in cases of veritic luck, and loose justification (LJ), which is sufficient for practical cases in which beliefs are reasonable to hold even if they fall short of being items of knowledge. In addition, I provide a reason for holding that PJ is required for all items of propositional knowledge, and not only for cases of veritic luck. Lastly, I propose that Gettier-style cases pertain to an ambiguity between PJ and LJ.

KEYWORDS: justification, fallibilism, infallibilism, factivity, invarianism, contextualism

Introduction

There are conflicting intuitions about epistemic justification. On the one hand, consider the phrase: “It is safe to say that...” The person who utters this phrase might mean that he is certain about the informational content of his claim. He might say, “Assuming I’ve done the arithmetic correctly, it’s safe to say that I can afford to lease this car.” In this case, “safety” is synonymous with some kind of certainty.¹ The person claims to know that p ; the justification for such knowledge is construed as sufficient for certainty.

On the other hand, many philosophers hold that justification can be fallibilistic.² I.e., one can be justified in believing a false proposition or formulating a luckily true belief such that the justification in these cases concerns propositional evidence that might be false or non-propositional evidence that might not be

¹ The certainty might be epistemic or it might be psychological, depending on what the person who uses the phrase means. In either case, the certainty is held on the basis of arithmetic.

² For example, Littlejohn (2019, 50) writes: “Most epistemologists would probably hold that the fallibilist thesis is correct.”

veridical. For example, in Gettier's (1963) Case I, Smith is thought to be justified in believing the false proposition:

(3) Jones will get the job.

Smith's evidence is:

- (1) The president of the company offering the job said that Jones will get the job,
and
- (2) The president's claim about Jones and the job is true.³

Gettier's case presupposes that Smith is justified in believing that (3), although the justification for (3) is fallible, since (2), though reasonable to believe, is false.

In Chisholm's sheep case, the person sees what looks like a sheep in the field, and based on this visual experience formulates the reasonable belief that *there is a sheep in the field*. However, the animal she sees is a sheepdog which is indistinguishable from a sheep at the distance from which she sees it. But luckily for her, there is a sheep in the field behind a hill, although she cannot see the sheep because the hill blocks her view. Hence, she has a justified, luckily true belief but lacks knowledge because her non-propositional evidence – namely, the visual experience of the sheepdog – is somehow inaccurate and because she is helped by luck.⁴

In this article, I will argue that fallibilistic justification is insufficient for propositional knowledge if veritic luck is involved. I will provide a thought experiment that demonstrates that even very strong probabilistic but fallible evidence is insufficient for knowledge if veritic luck is present. I will then distinguish between precise justification (PJ), which I suggest is required for knowledge in cases of veritic luck, and loose justification (LJ), which is sufficient for practical cases in which beliefs can be reasonable to hold even if they fall short of being items of knowledge. In addition, I will provide a reason for believing that PJ is required for all items of knowledge, and not merely for cases of veritic luck. Lastly, I will propose that Gettier-style cases pertain to an ambiguity between PJ and LJ. Given the desire for brevity, I do not have space to raise and answer objections, though I welcome them. I hope that the reader will find the points in this paper worthy of further discussion.

³ (2) seems to be a tacit assumption in Gettier's story.

⁴ For a brief discussion of the sheep case, see Roderick Chisholm (1989, 93).

Key Terms and Assumptions

By “veritic luck,” epistemologists mean roughly the sort of epistemic happenstance involved when one forms a belief that happens to be true in the actual world but in other possible worlds very similar to ours is false because the pertinent facts in those worlds are otherwise. This “happening to be true” works for the alethic benefit of the one forming the belief, although the belief-former does not contribute to the happenstance and therefore deserves no epistemic credit for the truth of the belief. Not all epistemic luck is veritic luck. For instance, Detective Green might be lucky to discover evidence for his case, yet he uses that evidence skillfully to build his argument. This sort of *luck of evidential discovery* is epistemic but not veritic. By “sure” below, I mean that which objectively can be counted on as true. By “unsure,” I mean that which objectively cannot be counted on as true because it might well have been otherwise.

It is a common assumption in epistemology that propositional knowledge is incompatible with veritic luck. This assumption is intuitive, though usually not supported by argument. Consider the following argument. (i) Propositional knowledge is factive. (ii) Whatever is factive is sure. Hence, (iii) propositional knowledge is sure. But (iv) beliefs in cases of veritic luck happen to be true. (v) Whatever happens to be true is unsure. Thus, (vi) beliefs in cases of veritic luck are unsure. It follows that (vii) propositional knowledge is sure and beliefs in cases of veritic luck are unsure. Now, (viii) for any two epistemic factors, if one is sure and the other unsure, then they are veritically incompatible with each other. Therefore, (ix) items of propositional knowledge and beliefs in cases of veritic luck are veritically incompatible with each other.

Consider the premises of this argument: (i), (ii), (iv), and (v) are uncontroversial. For (i), it is a matter of consensus and it seems intuitively evident that propositional knowledge is factive. For (ii), since whatever is factive is guaranteed to be true, one can count on its being true. For (iv), it is uncontroversial that in cases of veritic luck the true belief happens to be true; such is evident in Gettier-style cases. Concerning (v), if some proposition happens to be true, then it might well have been otherwise and thus cannot be counted on; for the subject, the truth of the proposition is a matter of happenstance and thus the subject is not warranted in counting on the truth of that proposition.

However, (viii) might need explication. If some proposition r is true but unsure, then the fact in virtue of which r is true might well have been otherwise and hence the truth-value of r might well have been false. S 's belief that r is therefore epistemically open, and hence the negation of r is epistemically possible. But if some proposition m is true and sure, then m can be counted on and therefore S 's belief

that m is epistemically settled for S , thereby making the negation of m epistemically impossible for S . Since an epistemically open belief is not an epistemically settled belief, such beliefs are veritically incompatible with each other; i.e., a belief cannot be both epistemically open and epistemically settled for S at the same time.

Thought Experiment

Suppose that there is a jar of exactly 10,000 jelly beans. 9,999 of them are completely and invariantly red. One is a color-shifter: it is completely blue under some lighting conditions and completely red under others. Smith is aware that the jar contains exactly 10,000 jelly beans, that 9,999 of them are completely and invariantly red, and that one is not.

Without looking, Smith reaches into the jar and secures exactly one bean: the color-shifter. This event is unlikely but possible. While the secured bean is in the jar, the lighting conditions make it blue. As Smith pulls the bean out of the jar and into the light, the bean shifts to red, although it would remain blue if Smith were to hold it under the light at a specific angle. With eyes closed, Smith says to himself “I believe that the bean I just pulled out of the jar is red.”

Now, Smith’s belief is true, since the bean is red, given the lighting conditions. And Smith’s belief is reasonable, since its probability is .9999. It is hard to find an inductive degree of strength higher than this. Therefore, in some sense of ‘justified,’ Smith has a justified, true belief that the bean he pulled from the jar is red. However, his belief is luckily true. The bean is a color-shifter. While in the jar, it was blue. It is red at the time Smith formulates his true belief only because Smith happens to be holding it under the light in a specific way; were he to move his hand an inch to the left, the bean would revert to blue.

Given the veritic luck in this situation, and assuming that such luck is incompatible with knowledge, Smith does not *know* that the bean is red. This thought experiment indicates that in such cases, even a very high degree of fallible probabilistic evidence is insufficient for knowledge if veritic luck is present.

Precise Justification and Loose Justification

Nevertheless, it is quite plausible to hold that a probability of .9999 is sufficient to make a belief reasonable, even if that belief falls short of knowledge. It seems evident that Smith is in some sense justified in believing that the bean is red, even if he is not justified in claiming to *know* that the bean is red. Suppose that Smith is going on an outdoor walk this afternoon and the weather report includes a claim that there is a .9999 probability of light rain – the kind of rain that one can walk comfortably in if one uses an umbrella. It is hard to deny that Smith is reasonable to believe that

it will very probably rain, and therefore that he is justified in taking his umbrella with him, even if, *mirabile dictu*, it turns out that there is no rain during his walk.

To address the difference between the justification that seems required for propositional knowledge in cases of veritic luck and the justification that seems adequate for reasonable belief which is not knowledge, consider a distinction between precise justification (PJ) and loose justification (LJ). PJ is factive; i.e., if one is precisely justified in believing that p , then p is true on the basis of evidence e , which is also true. As Neta (2018, 43) puts it, since evidence is the source of substantive rational constraints on an agent's credal state, an agent's evidence must be true. This point is consistent with what Alvarez (2018, 161) calls "the factive turn," a current shift in epistemology toward the view that reasons which justify a belief are factual reasons. I propose that PJ is required for knowledge in epistemic situations involving veritic luck.⁵

LJ is not factive; i.e., it is possible for one to be roughly justified in believing that q on the basis of e and yet q is false. LJ is therefore fallibilistic. In practical situations, such as Smith's walk, LJ is sufficient for reasonable beliefs that turn out false and thus do not count as knowledge, assuming that knowledge is factive. LJ is adequate for practical affairs but not for knowledge when luck is present. As Sosa (2019, 152) writes, fallibilistic justification is not knowledge: "When one deduces a truth from a justified falsehood, with no other access to that truth, one's belief is not knowledge, since it is not even apt." It should be noted that the sort of practical reasons addressed here are practical *epistemic* reasons, since they support belief. These are not practical motivations for action. One might say that practical motivations for action are axiological; i.e., they are considerations that guide a seeker toward attaining some end the seeker deems valuable. For example, if one desires to attain goal G , and achieving means M is necessary to obtain G , then one will desire to act to achieve M . This is a standard view of practical rationality in the literature.⁶ In contrast, epistemic reasons are supporting points of evidence directed at believing the truth. For instance, if one believes that the price of crude oil has recently increased and that such a surge tends to produce a corresponding increase in gasoline

⁵ One might use 'warrant' to refer to PJ, since warrant is sometimes thought of as evidential support which guarantees that a belief is true. Warrant is thus factive.

⁶ As John Broome (2010, 289) puts it: "It is commonly recognized that rationality requires you to intend what you believe is a necessary means to an end that you intend." And R. Jay Wallace (2020) writes: "Instrumental rationality, in its most basic form, instructs agents to take those means that are necessary in relation to their given ends. In the modern era, this form of rationality has widely been viewed as the single unproblematic requirement of practical reason."

prices, then one might conclude that the proposition “The price of gas will soon rise” is true.

Here is another jar experiment. The jar contains exactly 10,000 beans. 9,999 are red and one is blue. Smith is aware of the ratio. Smith is being held hostage by a madman who proposes the following: if Smith pulls exactly one bean from the jar and forms a true belief about its color, the madman will release Smith. Smith has a maximum of five seconds to do so. Smith accepts the proposal, believing reasonably that he has a very good chance of going free. He pulls the bean, and forms the belief that the bean is red. His belief is highly plausible, given the probability of .9999. Yet *horribile dictu*, the improbable happens: the bean is blue. For the practical purposes of this scenario, Smith’s belief is loosely justified but false.

Now suppose that Smith pulls a red bean. In this case, his belief is true and fallibly justified. He says to himself “I knew I’d pull a red bean. Now, I’m going free!” Does his true belief count as propositional knowledge? Arguably not, since it is both logically and (to a minimal degree) epistemically possible that the pulled bean is blue, and Smith did not eliminate this relevant possibility before pulling the bean, since he did not have the time to do so. Hence, Smith’s belief that the bean is red is loosely justified, though the looseness is a matter of very high probability – indicating a wide range for LJ, say, anywhere between greater than .5 and less than 1. However, Smith’s belief is not precisely justified.

Invariantism or Contextualism?

Yet why isn’t LJ sufficient for cases of knowledge which do not involve veritic luck? One might be inclined to hold that PJ is necessary for knowledge in cases involving veritic luck, but LJ is sufficient for knowledge regarding cases in which such luck is absent. This view might be construed as a version of epistemic contextualism in which the standard for knowledge varies according to the epistemic context; i.e., in cases of veritic luck, PJ is required, but in cases of absent luck, LJ does the job. However, as Belleri and Coliva (2019, 95) have argued, contextualism does not sufficiently handle the problem of veritic luck, and thus contextualism fails to account for Gettier problems, given that they involve luck. Moreover, one can construct arguments for the claim that epistemic invariantism is superior to contextualism. For example, Climenhaga (2021) argues that infallibilist invariantism provides a better explanation for several plausible epistemological claims than do versions of fallibilism and contextualism. For example, infallibilism offers a better explanation for why there is a lack of knowledge in Gettier cases, why knowledge is more valuable than non-knowledge, why knowledge enables rational action, and why knowledge permits one to stop inquiring into that which is known. Given the

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weakness of contextualism and the strength of invariantism concerning veritic luck and other epistemic factors, one might reasonably conclude that PJ is required for all cases of propositional knowledge, and thus that the standard for justification is uniform across all cases. Consequently, justification is not fallibilistic.

But is infallible justification sufficient for knowledge? Suppose that p is true and Brown believes that p . Moreover, Brown believes evidence e_1 , which entails p . Thus, p is epistemically certain for Brown. Hence, Brown has a true belief that is epistemically certain, or infallible, given e_1 . Nevertheless, at the moment Brown formulates the belief that p , Brown is not aware of e_1 , which is a dispositional belief for Brown. And Brown is not aware at this moment that e_1 entails p . Instead, Brown believes that p on the basis of e_2 , which is fallible. In this case, arguably, Brown does not know that p . It might be that what Brown needs is the awareness that he possesses the occurrent beliefs that e_1 and that e_1 entails p , and moreover it might be that Brown should formulate his belief that p based on e_1 . This suggests that propositional knowledge is a matter of S's having a precisely justified, true belief such that the precise justification is sufficient for epistemic certainty, and a matter of S's being sufficiently epistemically skilled in virtue of being aware that and how the belief is precisely justified. This awareness appears to be a kind of self-knowledge or knowledge by acquaintance with one's mental states.⁷ The basing relation (i.e., S's basing his belief on the relevant evidence) seems to require this self-knowledge.

Conclusion

In this article, I have contended that, for items of propositional knowledge, PJ is required. PJ is factive. If r justifies p , then p is true on the basis of r , which is also true. Given r , one cannot be wrong that p if one forms the belief that p on the basis of r . In other words, PJ is sufficient for epistemic certainty.⁸ Fallibilistic justification, or LJ, is insufficient for knowledge, though practically adequate for reasonable beliefs which fall short of the knowledge standard. Since Gettier-type cases contain fallibilistic justification and veritic luck, beliefs in such cases do not contain adequate

⁷ The awareness cannot be a matter of propositional knowledge, for that would make the definition of propositional knowledge circular, since propositional knowledge would be defined in terms of propositional knowledge that one's belief is precisely justified.

⁸ Here is a common analysis of epistemic certainty: if p is epistemically certain for S, then S cannot be wrong that p given S's evidence for p . Epistemic certainty differs from psychological certainty, which is a matter of one's being convinced or confident that one's belief is true. Psychological certainty is subjective; epistemic certainty is non-subjective. The claim that epistemic certainty is required for knowledge is consistent with several recent arguments, such as those of Moti Mizrani (2019) and Climenhaga (2021).

support to count as knowledge, though they contain enough to count as practically reasonable beliefs. Thus, in one sense, Gettier cases are examples of justified, true belief, since the justification is loose. However, in another sense, Gettier cases are not examples of justified, true belief since the justification is not precise. Gettier cases are thus germane to an ambiguity between two senses of justification: PJ and LJ. Such cases are matters of loosely justified, true belief – which is insufficient for knowledge, since knowledge seems to require precisely justified belief.

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HOW BIG DO THINGS LOOK?

Ron McCLAMROCK

ABSTRACT: The idea that we have direct and infallible knowledge of appearances is still deeply entrenched; and even scholars who reject this idea often still presume that our normal awareness of the shape and size of objects includes awareness of something like the shape and size of the image it projects onto the retina. I show here how these ideas are undermined by some new empirical evidence regarding these features, as well as by some observations concerning the phenomenology of size, the familiar moon illusion, and the persistence of illusions more generally. These considerations further suggest a path for dealing with the phenomenology of appearance more broadly.

KEYWORDS: perception, consciousness, phenomenology, vision, mind

1. Considering Apparent Size

There are few philosophical dichotomies as deeply entrenched as that between how things *appear* and how they *are*. But over 100 years into both modern psychology and phenomenology, talk about how things *appear* to us or *look* to us in the case of vision is still a bit of a mess. I'm going to try to sort out a tiny bit of that mess here.

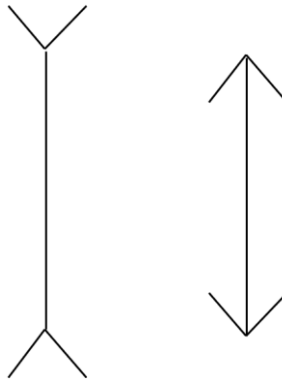
But before I do that, I'm going to ask you to start with a little personal phenomenology of perception. Now, we all know that the Moon is huge, and really far away. But how big does it *look*? One obvious way to try to make that question more concrete would be to transform it into a question about how big a disk you'd need hold up at arm's length to subtend the same angle or project the same "size in the image" as the disk of the Moon. Or, what you might take to be the same question, *how big a disk would you need hold up at arm's length for it to look the same size as the disk of the Moon?* Go ahead, consider it; perhaps take note of your answer before reading on.

So, here's the point about how things look—that is, about our visual experience of them, or if you like, the phenomenology of vision—that I'd like to make: The visual angle subtended in our view of an object (or what we might call the *size in the image*) is often unavailable to us, in the sense that we don't know even what should be basic and obvious facts about relative *size in the image*. That makes such size in the image a terrible candidate for something that's part of the appearance or visual experience of the object. It's not just that there's often more to the appearance than merely size in the image (although that's surely true as well);

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It's that size in the image is – under normal circumstances – just not part of the character of visual experience at all.

As noted, I'm interested in how things *look*; how they *appear*; or what the *character of the visual experience of them* is. The substantial body of literature in psychology on the perception of size informs but does not resolve questions about *apparent* size. Even if we had a well-worked-out story of our eventual perceptual judgments about the size of objects, that wouldn't tell us how big or small the objects *appear*, unless of course we are to assume that how big something *appears* to us and how large we *take it to be* on the basis of our perception must be the same thing. But almost no one wants to do this. Most obviously, this conflicts with the phenomenon of the persistence of illusion—the stick in the glass of water looks bent even though I don't believe it is, and the lines of the Müller-Lyer illusion look to be different lengths even though we know they aren't.



[Figure 1: The Müller-Lyer illusion]

Traditionally this has been pulled apart by separating our *judgments* about distal three-dimensional objects from what's directly *given* in the image available to us—something like sensory data or visible geometry. I take the core idea of such data is that it's something that is displayed in the two-dimensional image available from the point of view of the perceiver (what Alva Noë has nicely captured in characterizing what he calls the "snapshot" view of vision or of visual experience (Noë 2004, chapter 2)). In the case of visual size, I take this to be something like the angle-subtended "size in the image" noted above. So, a 6-inch saucer held 2 feet from my eye subtends a visual angle of about 14°, as does a 12-inch dinner plate if held about 4 feet from my eye. A snapshot taken from the position of my eye of each of

these will trace out the same-sized circle on the photo, and so they should have the same size in the image.

Let me be clear: I neither mean to assume that such images must be involved in a direct way in vision nor that such snapshot metaphors are at all helpful (as explained below, I think they're actually somewhat harmful). But I do think that the use of the expression is clear enough here and evokes something about a way of thinking about vision that's commonplace, so I'll go ahead and use it.

Noë himself uses a closely related idea of "Perspectival properties" (or "P-properties"), which are taken as an ineliminable (but not, for him, exhaustive) component of visual appearance and experience. As he puts it, "*how things look with respect to size from here*" ("size in the visual field")... corresponds to the size of the patch that one must fill in on a given plane perpendicular to the line of sight in order to perfectly occlude an object from view." These "perspectival sizes" are what he calls *P-properties*; and "they are themselves *objects of sight*, that is, things that we see. They are visible." So you *see* the "P-shape" projected by a plate; and with respect to trees of the same size but at different distances from you, "you can see the difference in P-size of the trees even though you also see that they are the same in size." (Noë 2004, 83)

So, as noted, one entrenched and simple way of dealing with the character of appearance is to take *appearance* as what shows up in visual geometry or P-properties, and *judgment* to be those things that we infer and make judgments about beyond what's given in the P-properties. On this view, what's given in the image for a sphere or a disc in perpendicular orientation to the line of sight is round and its size is crudely speaking the angle that subtends—or if you like, its P-size. The actual distal size that we *judge* an object to have is taken as inferred from its appearance in the image plus what we know about distances, relative sizes of objects, and perhaps all sorts of other information. Or, put slightly differently, the size that actually *appears* to us is the angle subtended, while the difference in size between objects that subtend the same angle is taken to be *judged* rather than given in appearance, using information beyond what's given in appearance.

The idea that what *appears* to us (as opposed to being *judged* or *believed* by us) at least *includes* (and maybe just *is*) what shows up in the projection or the image is not only commonplace, but persists even among those whose views on perception make significant room for other possibilities. As noted above, Noë holds on to the idea that P-properties are at least an ineliminable part of appearance. And psychologist Richard Gregory—whose views of visual perception emphasize its top-down nature—still says that "when we see a bicycle wheel from an oblique angle it *has the appearance of* an ellipse;" and that "an engine driver *sees* the rails as

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converging into the distance." (Gregory 2009, 135-6, my emphases) A snapshot of a bicycle wheel from an angle will certainly trace a two-dimensional form that is elliptical; but to say then that it *looks* elliptical is simply to make the assumption that I'm calling into question here—i.e. that the sameness of *projection* implies sameness of at least some salient aspect of *appearance*.

2. How Big Does the Moon Look? Some Data

I asked you earlier to consider how big the moon looks; or how big a disk you'd need to hold up at arm's length to match its projected size. Let me return to that now.

The correct answer is that a disc of about 1/4" in diameter at arm's length will match the angle subtended by the full moon. That's the size of one of those little pieces of paper you have left after you've used the hole punch. The moon subtends approximately a half of a degree, and one degree takes up about a half an inch at arm's length (depending on arms, of course, but we're just ball-parking it here). Next time you see the Moon, check it out; you might notice that the tip of your pinky at arm's length subtends a far bigger angle than the disk of the Moon. Perhaps you are surprised by this; perhaps not. Preliminary data I've gotten suggest that for many people, it's the former.

Here are two bits of small-scale data collection on intuitions about the apparent size of the moon. Both were done in college classrooms. The first was an open-ended survey with a small classroom group (N=14); the second was a forced multiple-choice survey in a larger one (N=108). In both cases, students in philosophy classes were asked the following question: *How big a disk would you need hold up at arm's length to "appear" the same size as the full moon (that is, to line up with its outline, or project the same size visual image, or subtend the same visual angle)?*

Open-ended survey: In the open-ended survey, students were asked to answer the question in whatever way seemed best to them – e.g., they could give a standard-sized object (like a U.S. quarter, or a baseball), or they could give an actual quantitative measurement if they preferred, in inches (or centimeters, or whatever). They wrote their answers down without discussion.

Results: None of the answers to the question within a factor of 2 of being correct; all were significantly larger. The smallest size given was .7" (U.S. dime), and only 7% of answers were under 1." The median size given was about 2", and over 20% gave answers larger than 5."

Forced-choice survey: Students in a large class were asked the same question, and encouraged to formulate their answer (without discussion). They were then given five options of familiar objects with their sizes (in inches) and asked to pick

the one *closest* in size to what they'd thought of. The answers were collected by an electronic classroom response system (the *iClicker*).

Results: The options given and responses are summarized below:

| | |
|--|-----|
| A CD or DVD (4.75") | 17% |
| The top of soda can (2.13") | 17% |
| A U.S. quarter (.96") | 51% |
| A U.S. dime (.7") | 12% |
| A scrap from a paper-hole-punch (.25") | 3% |

Discussion: What should we make of these results? Clearly almost nobody gets it right, even in the forced-choice case. A quite small number place it even within a factor of three, and a quite significant number are off by a factor of eight or more. Overall, the answers under both conditions show the subjects to be quite poor at judging the relative sizes of the angles subtended or P-properties exhibited by the moon and the various objects in this situation.

A small aside on the two experiments: Although the gross results are similar in the two cases, the median answer is clearly lower in the forced-choice case (around 1" as opposed to around 2" in the open-ended case). I suspect this is an anchoring phenomenon, as the 1" answer was the middle answer, and the highest-end possibility (4.75") was significantly smaller than the largest self-generated sizes.

In any case, the results overall suggest that at least in this particular kind of situation, people are kind of awful at judging the relative sizes of the angles subtended or P-properties. By itself, it's a counterexample to the claim that apparent size overall is both fixed by size in the image (or P-properties) and consciously available for introspective knowledge. We at least sometimes to get "size in the image" or angle subtended or maybe even P-properties quite wrong—that is, we judge that things that share P-size (like the Moon and the punch-hole paper at arm's length) *don't* share them, and that things that don't share them (like the Moon and the quarter at arm's length) *do*.

How general is this? Access to P-properties is clearly not a requirement of our normal visual experience; but whether the degree of mismatch on apparent size seen here will show up across lots of other situations is still an open question. My own suspicion is that this is quite general. I can't tell you when the nose of someone close to me subtends a bigger or smaller angle in projection from here than the whole face who is farther away, or whether a figure of a person across the room is taller or shorter in the image than my thumb at arm's length (at least, not without lining them up and maybe squinting.) If I were directly aware of "image sizes in appearance," I should be able to do that, at least far better than I can. Size "in the image" just seems like it is often not cognitively available to us.

3. Persisting Illusions More Generally

Before saying why this matters in the bigger picture for our views on perceptual consciousness, it's worth mentioning some ways in which this shouldn't be at all surprising. After all, the same phenomenon considered here shows up in general in the persistence of illusions.

So, for example, in the Müller-Lyer illusion (above), the double-forked line *appears* longer than the arrow-ended line. But of course their P-sizes are exactly the same. Even though we (being familiar with the illusion) *know* that, and so *judge* them to be the same length, appearances (or maybe our visual systems) just won't listen. Knowing it's an illusion doesn't change its appearance.

Or, take the illusion most closely related to our current case: The traditional Moon illusion. That the Moon appears larger at the horizon than it does higher in the sky has been noted since at least Aristotle. The recognition that this is fundamentally a phenomenon of perceptual psychology was well-established in the scientific community by the 17th century (largely by noting that the angle subtended by the Moon was constant across various heights in the sky); while the details of how this works have been debated over the last 100 years, perhaps now coalescing around our contemporary conventional wisdom that this results from using a variety of cues about distance that come from visible intermediate objects (and perhaps other sources) (see Egan 1998; Ross & Plug 2002).

Still, the earlier idea that the illusion is generated by a kind of atmospheric refraction is still quite commonplace in the population at large. In fact, in the forced-choice experiment discussed above, the students were asked the follow-up question "Would you have to use a different-sized object to match/line up with the moon when it's higher or lower in the sky?" 42% of the students picked "Yes, a smaller one when the moon is higher," 37% picked "No, the same," and 15% picked "Yes, a bigger one when the moon is higher." That's a lot of endorsement of the view that the angle subtended by the Moon is affected by its height in the sky, whether by "atmospheric refraction" or some other means.

Whatever folk explanation is offered, the fact is that the Moon subtends the same angle and presents the same P-size at the horizon as it does higher in the sky, but for at least many people appears larger at the horizon. But the larger-Moon-at-the-horizon persists as an illusion even though both the P-size and the judged size (we don't believe the Moon itself is *actually* bigger at the horizon) remain the same. And in this way, it's like other cases of persistent size illusions.

4. So What?

The concrete results here about the case of the Moon, the phenomenon of persistence of illusion, and the more impressionistic phenomenological reports about the relative size in the image of thumbs and figures and noses and faces would seem to suggest that there's a pretty widespread lack of knowledge of P-size. How might this bear on the idea that P-size is a feature of appearances?

I suppose one *could* try to dig in and conclude that we're terrible at knowing how big things look, since obviously the Moon and the quarter inch disk at arm's length *do* look the same size in the end. We could try in that way to hold on to the idea that the size that things appear (or at least some given aspect of that) is a straightforward function of the visual angle they subtend—that is, of their P-size. And one can find the occasional philosopher who will do this (see, for example, Schwitzgebel 2013).

But for many, this seems like a hard line to take. How things appear has been traditionally the kind of phenomenon about which we've take ourselves to have (nearly) infallible knowledge (as opposed to our quite fallible knowledge of the distal objects of perception). Appearance has been taken as what's in some sense *given* to us; and whatever mistakes we might make about the objects, the idea that we make rampant or even nearly universal mistakes about how things appear should seem pretty problematic. And all of the examples of how things look to us that I've discussed so far (including the Moon illusion, the Müller-Lyer, and the like) would have to be written off as cases where we are just wrong about how things look – wrong about the forked line looking longer than the arrow-headed one, for example.

Barring this, it seems like we need to reject the idea that how big something looks—or even an experientially available part or aspect of how it looks—is simply a matter of the angle it subtends (or its P-size). This fits nicely with the cases at hand, and overall is a natural part of a generally anti-snapshot view of visual experience.

This shouldn't really be seen as surprising or puzzling as a fact about perception. Our visual system is really good at integrating lots of subtle cues about a scene into perceptual information about the sizes and distances of objects. Binocular stereopsis, defocus blur, motion, and experience with the objects from various perspectives all work together to solve the problem of figuring out the three-dimensional scene (or at least the aspects useful to us in it) that we face. But it's an open question which pieces of the overall information that the visual system has access to and uses in this process are passed along in a way that shows up directly in the character of our visual experience.

Visual processing may not be an entirely informationally encapsulated system, but it clearly uses far more information than it passes along to the character of visual experience in an explicit way. So, for example, information about binocular disparity is clearly used in perceiving depth and distance, but our unified gaze normally has access to the depth but not to the binocular disparity itself. Taking seriously the *task* analysis of vision (in the sense of Marr 1982), we can see vision as working to provide us a characterization of the three-dimensional environment we encounter. It makes use of lots of information, some of which we might think of as visible geometry, features "in-the-image," or P-properties. But whether it passes along to our visual *experience* any particular features it might detect and use is an open and empirical question. In principle, it needn't tell us much about its internal doings.

Ignorance about the P-sizes in the case of the Moon (and others mentioned above) suggests that the information passed along to experience may not include these. And if it's not available to our judgment at all, including our judgments about appearances, it seems like a particularly bad candidate for something that is to constitute a central piece of the character of visual experience in the way we wanted from the notion of appearance.

Although I won't argue the point here, I think this will turn out to be the case for some other features of stimuli that have often been taken as features of appearance, such as color and lightness; and perhaps in other modalities of perception, similar patterns will be seen. The features of appearance are, I suspect, far more entrenched in our engagement with the world more broadly than with the explicit character of the proximal stimuli we pick up.

But for now, I'll leave it at this: At least sometimes, P-properties are not visible at all, but invisible, rather hidden behind a veil of perception – not one separating our consciousness from the distal world, but one separating it from our own proximal stimuli.¹

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¹ Thanks to P. D. Magnus and Nick Jacobson for their feedback on earlier drafts of this paper.

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THE END OF THE CASE? A METAPHILOSOPHICAL CRITIQUE OF THOUGHT EXPERIMENTS

Santiago A. VRECH

ABSTRACT: In this paper I carry out two tasks. First, I account for one of the distinctive uses of thought experiments in philosophy, namely, the fact that just *a* thought experiment is sufficient to confute a well-established theory. Secondly, I present three arguments to defend the claim that, at least in philosophy, we should remove thought experiments from our metaphilosophical toolkit. The central premise that motivates these arguments is the following: the very methodology of thought experiments permits to construct different scenarios in which philosophical theories are refuted *ad infinitum*.

KEYWORDS: thought experiments, imagination, experimental philosophy, metaphilosophy, cases, intuition

§ 1. Introduction

Philosophers use cases – or thought experiments – as a manner of refuting or supporting theories and analyses.¹ The methodological import of cases is such that some of the most renowned arguments in different branches of analytic philosophy consist precisely of thought experiments. For instance, due to Gettier cases we have reasons to believe that the analysis of ‘knowledge’ as a justified true belief does not hold; likewise, we might believe that descriptivism is incorrect because we judge that the thought experiments presented by Kripke sufficiently show the defects of the theory.

In the current metaphilosophical debate about thought experiments, it is usually maintained that an intuition needs to be elicited in order for thought experiments to have argumentative power. Indeed, “philosophers use intuitive judgements about cases as evidence for (or against) philosophical theories” (Andow 2020, 1). Thus, according to this picture, in considering a case² we come to non-

¹ Although the use of thought experiments is not limited to the purposes of refutation or validation. Davidson’s Swampan is an example of a thought experiment used for illustrative purposes, whereas trolley cases are instances of what Cohnitz calls “puzzle cases:” cases used to make us ponder (Cohnitz 2020, 102-103).

² In the metaphilosophical literature, “thought experiments” are also referred to as “the method of

inferentially perceive that the case is (or is not) an instance where the theory holds (or does not).³ In the light of this, the elicited intuitions are taken to be groundless – non-inferential – and *a priori*. It is because of these attributes that what Sydney Shoemaker has characterised as a cartesian conception of introspection can be applied to this context as well, since the use of intuitions

involves a strong form of the doctrine that mental entities are “self-intimating,” and usually goes with a strong form of the view that judgments about one’s own mental states are incorrigible or infallible, expressing a super-certain kind of knowledge which is suited for being the epistemological foundation for the rest of what we know (1994, 271).

Now, do we really need to rely on intuitions to explain the argumentative use of cases? And, perhaps more importantly, are we correctly describing our own argumentative use of thought experiments in this way? Many problems can be avoided with a negative answer to both questions. Indeed, the tortuous debate about the nature and use of intuitions can be avoided by conceiving of thought experiments as *reasons*. Why do we think that an internalist account of intentionality is incomplete? Because of a thought experiment – a twin earth scenario – that we wield as a reason. Why do we believe that the environment has any role to play in determining the aboutness of our concepts? Because of thought experiments! Why do we believe that knowledge is not a justified true belief? Because of cases! We use cases as reasons directly; there is no *philosophical* need to talk about intuitions to see the argumentative import that thought experiments have.

Reasons are important, and peculiarly so in philosophy. We put forward reasons and arguments for accepting or rejecting theories and analyses. Thought experiments are especially remarkable for the purpose of rejection; the philosophical damage that they cause is quite characteristic of them. So much so that, for example, when Gettier and Kripke published their cases, the theories against which they were directed came under attack immediately and were virtually overthrown. From this two points can be deduced: first, that just *a* case is taken to be enough to refute a well-established case, and secondly, that an imagined scenario has a striking refutative power. How is it possible for a case to dethrone an entire theory? Wherein lies this epistemological power? Furthermore, is the refutatory use of thought experiments itself justified?

cases” or “cases.” I will follow this custom and use these names interchangeably.

³ Cappelen and Deutsch have argued against this view by claiming that thought experiments are used mainly as counterexamples and intuition does not have any justificatory or evidential role to play (Cappelen 2012; 2022; Deutsch 2009; 2010). For a more comprehensive account of their arguments, together with responses against their views, see Climenhaga (2018).

These are the questions that I want to address in the present paper. In order to do so, I will commence in §2 by showing a specific feature of philosophical theories and showing how thought experiments relate to this feature. It is in this section where I answer the first question. In the following §3 and §4 I comment upon the works of experimental philosophers and deduce some troublesome consequences for the use of thought experiments. These two sections set the stage for §5, where I lay out three arguments to argue against the use of thought experiments as argumentative devices. Finally, in §6 I round off by making some final remarks.

§ 2. The Modal Status of Philosophical Theories

Just *a* case is enough to refute a well-established philosophical theory. This occurs due to a noteworthy feature of philosophical theories and analyses that is rarely noticed and spelled out:⁴ their modal status. Precisely, in order to comprehend the immense power that thought experiments have as refutation devices, it has to be acknowledged that philosophers present their theories presupposing that they should hold in every possible world, *i.e.*, to be necessarily true. Hence, the refutatory use of thought experiments presupposes the following principle:

A philosophical theory is true if and only if it is necessarily (\Box) so.

This principle allows to account for the fact that a mere far-fetched possibility (\Diamond) can refute an entire well-established philosophical theory. Furthermore, it shows us the usual argumentative pattern that thought experiments follow: “someone assert[s] $\Box p$, and an interlocutor rejoin[s] “but wait; $\Diamond q$, and $\Diamond q \rightarrow \Diamond \neg p$; therefore it is not the case that $\Box p$ ” (Hales 2009, 22).

In order to fully grasp this, let us consider Jackson’s thought experiment “Mary the neuroscientist.” Why does this case work as a valid argument against physicalism? Because it points to a possible scenario where it seems that Mary, although she possesses all the relevant material/physical knowledge, still discovers something new when she experiences colours; but if physicalism were true, then this should not happen. We should not think that she discovers something new. Thus, it is because it is assumed that physicalism is a necessary true theory which accounts for the fact that Mary’s case is sufficient to overthrow physicalism.

The natural world is usually regarded as the *de facto* place for scientists. With some exceptions here and there, it is usually the case that philosophers are neither trained to deal with the subtleties of experience, nor they tend to present their theories in a way for these to be verified against the tribunal of experience. This

⁴ With the following exceptions: Cohnitz (2006) and Kung (2016; 2021).

might explain the success story of thought experiments; they are extremely well suited for the purpose of checking the modal credentials of philosophical theories due to one of its fundamental features: the case needs only to be imagined. To be sure, in order to rebut the idea that meaning is in the head, we just need to imagine a twin earth where water's composition is XYZ instead of H₂O. An imaginative act of reason alone serves to confute a theory, or, as Timothy Williamson has put it, "much of the philosophical community allows that a judicious act of the imagination can refute a previously well-supported theory" (2007, 179).

As it transpires from the above, imagination plays a key role in the refutative use of thought experiments. Moreover, if they are to have such a destructive effect –as they actually do– it is because we are tacitly accepting the idea that imagination (or conceivability) is a reliable epistemic guide to possibility. We have to remark, then, that this in turn presupposes the endorsement of a conceivability-based account of the epistemic value of imagination.⁵ At their core, these accounts maintain that if we can imagine p , then $\diamond p$ and, on the contrary, if we cannot imagine p , then $\neg\diamond p$. For instance: since I can imagine turtles walking really fast, I can safely conclude that this is possible. Nevertheless, since I cannot imagine a squared triangle I thereby conclude that this is not possible.

The last example indicates that there are limits to what can be imagined, and, more importantly, there must be such limits, otherwise by imagining *n'importe quoi* we could prove or disprove theories indiscriminately. If someone can imagine a possible world where the logical positivists managed to verify the principle of verification, then it follows that it is possible to verify the principle of verification. I can imagine myself one morning opening a philosophical journal which claims with irrefutable certainty that the principle has indeed been verified. After imagining myself going through the journal, I imagine myself turning on the TV and seeing on the news channel "BREAKING NEWS: The principle of verification has been verified!" Now, would this conceivability entail actual possibility? It would not, since the very semantical principles that the principle conveys excludes itself from verification. It cannot thus verify itself; it is logically impossible to do so.

This example shows that imagination provides a way in which to constrain imagination in order for it to work as an effective guide for modal possibility. I contend that imagining x cannot provide a reliable epistemic role if (1) imagining x

⁵ Although there has been some critiques to conceivability-based accounts (Van Inwagen 1998), these theories (as expounded by Yablo 1993; Chalmers 2002; Kung 2010) seem to enjoy contemporary endorsement (Lam 2021). Furthermore, certain contemporary accounts do not require imagination to have imagery power. See, for example, Kung (2021) for an investigative account of the role of conceivability without imagery.

entails a contradiction and if (2) it is already known in the actual world that x is logically or semantically impossible. In having thus a constrained account, we assure an epistemological use for imagination (Kind 2018, 239; Peterson 2021, 227-228).

As a final point, it is important to mention that a thought experiment can only have argumentative force if and only if someone considers it to be a reason for or against a certain theory. If someone does not judge Searle's Chinese room as a reason against the computational theory of the mind, then the thought experiment by itself does nothing. This is due to the simple fact that if we cannot see how the thought experiment is pointing to a possibility where the theory does not hold necessarily, then we will not employ the thought experiment as a reason against it. Although it may seem trivial, from this point follows a crucial consequence: if someone – or even worse, an entire group of people –, when considering a thought experiment, does not see why the case would be a counterexample (a reason) against a theory, then it seems that the theory will still be intact. This corollary is not only an implication of the inner workings of the method of cases, but is rather an established fact documented by experimental philosophers.

§ 3. Experimental Philosophy, or From the Arm-chair to the Field

Metaphilosophical worries and issues regarding the use of thought experiments started to slowly emerge after the publication of Weinberg, Nichols and Stich's paper (2001). In this paper the authors investigated whether people from different cultural and linguistic groups would consider the same thought experiment differently. For verifying the hypothesis, they went on to conduct a series of experimental studies which confirmed the following two points: (1) Epistemic intuitions vary from culture to culture and (2) epistemic intuitions vary from one socioeconomic group to another. They corroborated these points by presenting to "Western" and "East-Asian" audiences a variation of a Gettier case and subsequently asking them whether the person in the scenario (A) really knows or (B) only believes. The result was "striking (...) a large majority of Westerners give the standard answer in the philosophical literature, viz., "Only Believes." But among Eastern Asians this pattern is actually *reversed*! A majority of EAs say that Bob really knows" (*op. cit.*, 443).

Sixteen years later, Machery and collaborators conducted similar experiments with people from 23 different countries to see whether "the Gettier intuition is robust across cultures and languages" (Machery *et al.* 2017, 532). Although the evidence that they found supports the claim, they nevertheless remark that "Bedouin data may be a counterexample to the claim that the Gettier intuition is universal" (530). Hence, there is at least a group of people who does not judge Gettier cases as reasons against the JTB analysis.

The field of work of experimental philosophers does not circumscribe to epistemology, as the above examples might indicate. On the contrary, their studies and findings extend well beyond this field.⁶ In the context of the present essay, the works of experimental philosophers on philosophy of language are of especial importance. Machery *et al.* (2004), for instance, investigated whether North-Americans' and East Asians' intuitions about reference support descriptivism or the causal-historical view of reference. For this aim they presented people from the United States and from Hong Kong variations of Kripke's Schmitt/Gödel and found that Kripke's cases elicit culturally variable intuitions: "Chinese participants tended to have descriptivist intuitions, while [US Americans] tended to have Kripkean ones" (*op. cit.*, B12). Similarly, Koch and Wiegmann (2020) have recently argued that, according to their experiments and findings, native English speakers' folk intuitions rather support what they call the "causal source view" of reference defended by Evans and Devitt.

Experimental philosophical studies show how cultural, linguistic and socio-economic variables, which are set aside in traditional philosophical reasoning, play an important role in making somebody judge a thought experiment as an effective reason for or against a philosophical theory. Moreover, there are also further factors that play such a role, like framing and order effects. These two features account for differences in judgement caused by variations in (A) irrelevant narrative factors and (B) the order in which cases are presented (Machery *et al.* 2018). Other variables that might affect our judgement of cases are gender, age, personality and academic affiliation (Stich & Tobia 2016). All this implies that a thought experiment is not judged as a reason solely due to its soundness or coherence. Rather, experimental studies make manifest the many different elements beyond the philosopher's control which influence the consideration of a thought experiment as an effective argumentative device.

Responding against experimental philosophy, arm-chair philosophers have argued that the findings of experimentalists are of no particular value for constructing or refuting philosophical theories for the same reasons that laypeople's beliefs about physics or biology do not count as reasons against physical or biological theories. After all, why should philosophers be interested in what laypeople think about philosophical cases? Philosophers should rather rely on their own expert consideration of thought experiments. This is why, according to Ludwig, "using surveys of untrained people to settle issues where there are conceptual knots in our thinking is fundamentally misguided" (2007, 149). Despite the initial plausibility of

⁶ For a comprehensive survey of the many areas in which experimental philosophers have worked and their results, see Sytsma and Buckwalter (2016).

this line of defence, the available empirical findings sustain the claim that even philosophers themselves, when thinking and considering thought experiments, are subjected to non-philosophical factors that influence their consideration of cases (Horvath & Koch 2021). Hence, despite Deutsch, who writes that “Gettier refuted the JTB theory, if he did, and Kripke refuted descriptivism, if he did, by presenting counterexamples, full stop. Whether these counterexamples are intuitive for anyone is a separate, and purely psychological, matter” (2010, 448), it has to be acknowledged that there are indeed different factors outside the philosopher’s control which do contribute to the way in which someone judges a thought experiment.

§ 4. Troublesome Consequences

I want now to draw three general points from what I have written so far: (A) philosophical theories assume a necessary modal status; (B) thought experiments, if they are to work as argumentative devices, depend on someone judging the case as an actual reason for or against a theory, and (C) there are extra-philosophical variables such as cognitive make-up and socialisation which influence the consideration of thought experiments.

These three points taken together have troublesome consequences for the argumentative use of thought experiments. We can see how by considering that one reason that we might have for thinking that internalism is incorrect is a thought experiment. But what if a group of people, among which there are philosophers, does not consider the thought experiment as a counterexample to internalism? What does it follow from here? Does it follow that internalism is true for them but false for us? How do we know who is right? Before answering these questions it is important to understand where exactly the problem resides. According to Stephen Stich:

Theories (...) assume that the contents of intuitive judgments are likely to be true. But if one group of people have the intuition that the protagonist in a thought experiment knows that p (or that her action was morally wrong), and another group of people have the intuition that the protagonist does not know that p (or that her action was not morally wrong), then obviously these two groups cannot both be right. So, unless the philosopher who is using intuitions as evidence for an objective phenomena theory can give a plausible reason why the intuitions of one group (typically the group that disagrees with him!) can be ignored, *demographic differences pose a fundamental challenge to the venerable philosophical tradition of using intuitions as evidence for objective phenomena theories* (2018, 385. Italics in original).

As I read him, Stich suggests that the problem that emerges when two groups have diverging intuitions resides in the fact that philosophers assume that the

content of the intuitive judgement elicited through a thought experiment is likely to be true. Hence, when faced with two different responses to the same case, a manner to select between the two would consist in (1) providing a meta-criterion for deciding between the two competing intuitions or (2) putting forward reasons that would explain away the intuition of one group over the other. I believe that both answers have fundamental problems. First, notice that (1) and (2) would be *ad hoc* strategies. In effect: philosopher *p* has found that a group of people does not see their thought experiment as “intuitive” (in Stich’s wording) and *then* presents reasons or a meta-criterion to explain away the conflicting intuition. But – and this is a second difficulty – even if they do this, on what grounds would they do it? How would they ground their arguments or the criterion? They might base them on extra-philosophical factors that bear on the discussion but cannot be philosophically settled or in further thought experiments, since these are taken to be the very foundations from which philosophical arguments gain their appeal. Therefore, philosopher *p* would need to go outside of philosophy or move in a circle. But be that as it may, one thing is clear: there is no apparent manner of solving the problem *within* philosophy. To my judgement, Stich’s way of articulating and solving the problem is unsatisfactory, being that it cannot be resolved within the confines of philosophical theorising.

But then, where does the problem lie? I believe that it lies in the argumentative use of thought experiments. For if thought experiments are supposed to be the fundamental reasons from which philosophical arguments and theories gain their appeal and if these reasons, in turn, are supposed to provide incorrigible or infallible justification, then it is because of the very argumentative use of thought experiments the ground that explains why the problem emerges in the first place. Indeed, were one not to use thought experiments as the base of one’s own theory or use them to criticise others theories, then there would not be any issue in having conflicting reactions to the same case. Furthermore, the argumentative use of thought experiments poses a radical metaphilosophical problem. For if two reactions to the same thought experiment cannot compete, then this very usage of cases eventually brings philosophy to an impasse. Due to these considerations, in the next section I will argue that the use of thought experiments for argumentative purposes should be abandoned.

§ 5. The End of the Case

In this section I will present the arguments that will justify what I have written above. Before proceeding to do so, I want to state the core idea that structures the arguments, to wit: since as a matter of fact there exist differences in the cognitive

constitution and socialisation of people, and since this constitution is partly responsible for the variations in their responses to thought experiments, then this variation can be exacerbated by going to the modal domain – which is not and needs not be encircled by real facts or the laws governing those facts⁷ – so as to imagine a possible world where people only exhibit differences in their cognitive make-up and thereby always judge thought experiments differently. In other words, the idea consists in imagining a possible world in which, for every philosophical theory $p_1, p_2 \dots p_n$, there is a group of people $g_1, g_2 \dots g_n$ who always regards a thought experiment as a reason against $p_1, p_2 \dots p_n$, pointing hence to situations where the theory does not hold necessarily.

This idea has a further positive consequence: experimental philosophers have established, using non-aprioristic methods, that people do not judge a determined thought experiment in the same way. For some, a Gettier case is a scenario where one possesses a justified true belief but not knowledge, whereas for others it is indeed knowledge.⁸ Nevertheless, one could circumvent the results of these studies by disputing the data, adhering to an *ad-hoc* hypothesis or claiming that philosophy's business has nothing to do with empirical findings. My arguments, however, since they are *a priori* and are presented in the modal domain, cannot be dismissed so easily by arm-chair philosophers.

As a result of this, and as I will later show, the value of thought experiments as a philosophical methodology is called into question. For what is the point of using a method which will constantly refute theories? From here then two alternatives are possible: either we abandon the modal status of philosophical theories or we discard the use of thought experiments for argumentative purposes. Both points have profound metaphilosophical consequences.

⁷ Cooper (2005) would disagree. She writes “we can say that a thought experiment is more likely to succeed if the thought experimenter is knowledgeable about the relevant aspects of the actual world. Only if she possesses either explicit or implicit knowledge of the behaviour of real phenomena can the thought experimenter predict how hypothetical events would unfold” (343). I do not agree with this requisite. Think about Thomson's violinist thought experiment (1971). Can one *really* attach a virtuoso violinist to the body of human beings? No, not really. Nevertheless, Thomson's thought experiment functions as a reason for defending the permissibility of abortion. To my understanding, this shows that philosophers do not need to have explicit or implicit knowledge about the behaviour of real phenomena. The same could be said about Davidson's swampman thought experiment (1987).

⁸ Is it then that they just do not get it? Are these two groups talking past each other? If it were only a case, then I would think so. But experimentalists' results have repeatedly shown that people disagree over many different cases. It is therefore a simple way out to maintain, *ad hoc*, that they do not understand the case. Hence, the evidence gathered so far is better explained by claiming that they do get it, but they just do not see the case as the philosopher wants them to.

With that said, it is now time for the arguments. Here is the first one, which is structured as follows:

Argument 1:

- (1) If thought experiments are a valuable metaphilosophical methodology, then by using them we can justify or refute philosophical theories.
- (2) If a thought experiment is to be used for justifying or refuting a theory, then there cannot be an impasse in people's consideration of them.
- (3) There are indeed impasses due to variation in people's judgement of thought experiments. The variation can be either *factual* or *modal*.
- (4) Hence, by (3) and (2) it follows that thought experiments cannot be used to justify or refute a theory.
- (5) Therefore, by (4) and (1) it follows it is not the case that thought experiments are a valuable metaphilosophical methodology.

Although I take the argument to be straightforward, I deem it best to explain the premises and the conclusions: Premise (1) is a conditional that establishes that if the method of cases is a valuable methodology, this is, a truth-conducive method, then philosophers can resort to this method in order to justify or refute a philosophical theory. Conditional (2) says that if a philosopher is to use a thought experiment for justification purposes (*i.e.*, for justifying or refuting a philosophical theory), then there cannot be stand-offs between two matching "intuitions". Differently said: if p_1 judges thought experiment TE as a reason against a theory and p_2 does not, then both p_1 and p_2 need to modify their judgements about the case if the thought experiment is to function as an actual reason for or against the theory; otherwise TE is used by p_1 and p_2 as a reason and not as a reason against the same theory. Now, since the judgements of p_1 and p_2 are incorrigible and infallible, it follows that p_1 and p_2 cannot come to modify their judgements. Hence, a stalemate is reached. Premise (3) establishes that there is indeed variation. This is the crucial premise of the argument, and in the following paragraphs I will justify it accordingly. Finally, conclusions (4) and (5) draw the consequences.

Here is a variation of the first argument:

Argument 2:

- (1) If the method of cases is a sound metaphilosophical method, then by using it we should not refute theories *ad infinitum*.
- (2) Using thought experiments we can indeed refute philosophical theories *ad infinitum*.
- (3) It is not true that the method of cases is a sound metaphilosophical method.

I take this second argument to be more direct than the previous one and in no need of further elucidation. Only a minimal remark is in place: I write

“metaphilosophical method” because here I am just restricting myself to criticise the philosophical use of thought experiments. In science they are used in a different manner and yield different results. Hence the importance of clarifying that I am here only addressing the philosophical use of it.⁹

In what follows I will present two sub-arguments and a thought experiment, which will justify premise (3) of the first argument. In due time, I will make clear what arguments justify premise (2) of the second argument.

The first argument, the “argument from variation,” consists in putting to work the evidence amassed by experimental philosophers and concluding that there is factual variation in people’s responses to cases.

Argument from variation:

- (1) If there is documented variation in people’s judgement of thought experiments, then this constitutes evidence for the factual variation of people’s judgements to thought experiments.
- (2) There is evidence registering people’s variation to thought experiments.
- (3) Therefore, there is factual variation in people’s consideration of thought experiments.

This sort of argument is usually controversial in the metaphilosophical debate between arm-chair and experimental philosophers for two main reasons. First, because it is disputed the amount and exact type of variation that actually exists and how this is problematic for the method of cases; second because there are not uncontroversial beliefs on what exactly the empirical data shows (Suhler 2019). For these reasons, I deem low the chances of success of this argument. Now, despite the fact that the argument can be thus challenged, it is already showing that is documented variation in people’s responses to thought experiments.

Here is the second argument (which also works as a justification of premise (2) of the second argument):

Imaginative power’s argument:

- (1) If it is conceivable to devise a scenario in which there is modal variation in people’s judgements of thought experiments, then this constitutes evidence for the modal variation of people’s judgements to thought experiments.
- (2) It is indeed conceivable to devise such a scenario.
- (3) Therefore, there is modal variation in people’s judgement of thought experiments.

⁹ See Schindler and Saint-Germier (2021). The authors critically analyse the role of thoughts experiments in physics and argue that “there is no ground for thinking that the method of cases is a somehow intrinsically flawed methodological oddity” (25).

Let me break down the argument and analyse it. Premise (1) establishes that if it is possible, in principle, to construct a thought experiment in which people react differently to a thought experiment, then this would constitute *prima facie* corroboration of the consequent. The method of cases, were it a good method, should not allow us to construct imagined scenarios where people diverge in their consideration of thought experiments. Premise (2) maintains that it is possible to imagine such a case; and here is where the exacerbation spoken of at the beginning of this section comes in to play a role. For surely it is more than possible to imagine such a case, if there already exists such variability as a matter of fact. Put it differently: if already constricted by the limits of the real world we find that some people do not see why a case should count as a reason against a theory, then this fact can be exacerbated to a much greater extent by the inner workings of the method of cases, for the sole faculty of imagination is enough for having twin earths, brains in bats, teleportation devices, zombies, experience machines and so forth. Hence, consequence (3). Unlike the previous argument from variation, this argument does not rely on the findings of experimental philosophers but rather on the inner workings of the method of cases: its imaginative dimension.

In the face of the previous point, a pressing question emerges: can we really imagine such a case? I contend that we can: imagine that in the future there lives a philosopher who, making the most of the technology of their days, invents a computer program that devises counterexample thought experiments for every philosophical theory proposed so far. The program does this by analysing the modal structure of the theories and then devising possible cases in which the theory does not hold, refuting it thereby. The program, being run by a supercomputer, invents the required case in matters of seconds¹⁰ and also indicates the required cognitive, psychological and social make-up that someone would need to possess in order to see the case as a counterexample. Now, since the case by itself will not refute the theory – somebody needs to regard it as an effective reason/counterexample –, the philosopher invents a second program for designing and making human beings (similar to what the game *The Sims* does). Using it, the philosopher designs a human being with the required cognitive, social and psychological features needed for ensuring that this person sees the case devised by the first program as an effective reason against the theory. Next, capitalising on the state of the art of cloning and human-design software and machinery, the philosopher proceeds to create the envisaged human. Once this is done, the philosopher asks them whether they think that the theory holds in the scenario devised by the first programme and they

¹⁰ The supercomputer in this thought experiment should be thought of as a maximiser of our own cognitive faculties. See Priest (2021).

answers with a simple “no:” they do not think that the theory holds in the possible world devised by the first supercomputer. Next, the philosopher repeats the process, but this time designs a human with the cognitive, psychological and social make-up required to make them see the case as a situation in which the theory does hold. In this way, here is an imagined situation in which there is modal variation in people’s judgement of thought experiments.

There is a further consequence to be derived from this thought experiment. Philosophers, were they still using thought experiments for truth-conducive purposes, could neither attain true philosophical theories nor could they resort to thought experiments to refute different theories. For each of these two purposes the philosopher of the thought experiment would respond appropriately. For the first case they would create a counterexample, and for the second they would design someone who will not consider the proposed case as a counterexample. Hence, in this futuristic world the use of the method of cases would imply the refutation of theories *ad infinitum* and the argumentative futility of thought experiments..

§ 6. Conclusion

In this paper my main objective has been twofold: to account for the fact that usually just a thought experiment is enough to undermine an established theory and to criticise a fundamental metaphilosophical tool used in various debates in philosophy.

I have shown that the destructive power of thought experiments resides in the modal status of philosophical theories, while the arguments and the thought experiment exposed in the previous section have justified the second claim. Furthermore, the arguments laid out in the previous section show that any argumentative use of thought experiments, positive or negative, is not truth-conducive. This implies that the conjunction of (A) the use of the method of cases for truth-conducive purposes and (B) the idea that philosophy deals with necessary true theories cannot be both maintained at the same time. In principle, we could abandon one of these constituents and embrace either one of these two views: to carry on with the idea that philosophers’ business is to construct necessary true theories and analyses, at the cost of abandoning the use of the method of cases for truth-conducive purposes. Alternatively, we can discard the idea that philosophical theories should be necessarily true and continue to use the method of cases. We could conceive the objective of philosophy to be that of investigating the concepts relative to a language, culture or background. Be that as it may, one thing stands fast: the adoption and implementation of either of these two standpoints would carry

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with it a reconfiguration of philosophy's conception or methodology. I hope to have shown that we have reasons to do so.¹¹

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¹¹ **Special acknowledgements:** I would like to thank Annemarie Kalis, Daniel Cohnitz, Jesse Mulder & Bjørn Jespersen for valuable comments on earlier versions of this paper.

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BEYOND TYPOLOGY/ POPULATION DICHOTOMY. RETHINKING THE CONCEPT OF SPECIES IN NEO- LAMARCKISM AND ORTHOGENESIS

Michał Wagner

ABSTRACT: Historiography is becoming more critical of the typology/ population dichotomy introduced by Ernst Mayr. Therefore, one should look again at the problem of species in non-Darwinian theories: neo-Lamarckism and orthogenesis, and consider the possibility that this problem was overly simplified. What can be seen in both of them is the existence of a tension between the idea of evolution and the essence of species. In neo-Lamarckism, this tension was resolved by recognizing species as static entities which changed only when triggered by external stimulus. In orthogenesis, evolution was seen as constant phenomena and species – as naturally changeable entities. However, orthogeneticists assumed that not only species, but also whole phyletic lines had essences that constrained their further evolution. Thus, in both cases we can see interpretation of species in tune with essentialism, but essentialism is widely differently integrated with each of these concepts of evolution.

KEYWORDS: population, typology, essentialism, Darwinism, neo-Lamarckism, orthogenesis

Introduction

The “eclipse of Darwinism” was a term introduced into modern historiography by Julian Huxley (1945, 17-28) as the name of a historical period in the history of biology at the turn of the 20th century. It was manifested by a sudden decrease of interest in Charles Darwin's theory of evolution in favour of other non-Darwinian evolutionary theories, such as neo-Lamarckism, orthogenesis, saltationism and mutationism. The situation changed only in the 1930s, when the “synthetic theory of evolution” emerged and Darwin's theory was fully accepted. Ernst Mayr, one of the most influential figures in the history of biology, explained the cause of the “eclipse” by pointing out that external, irrational factors prevented naturalists from fully accepting Darwin's theory (1991, 38-39). One of the most important factors was essentialism, which influenced the way naturalists interpreted the idea of species species (Mayr 1982, 270). According to Mayr (1971, 10-11), essentialism led

to the creation of the so-called “typological” concept of species. This concept was based on the assumption that natural phenomena are invariant and the species consist of similar individuals with the same essence. However, the application of essentialism to evolutionism led to the creation of theories very different from Darwinism, which did not fully accept natural selection (Mayr 1990, 90–91). Subsequently, these theories introduced other mechanisms of evolution, such as neo-Lamarckism which favoured Lamarck's laws of use and disuse, or orthogenesis postulating the existence of immanent growth forces. Its opposite was the “populational” concept of species, in which species were perceived as populations consisting of unique individual (Mayr 1959). The populational concept of species was only fully accepted in the context of the synthetic theory of evolution and, according to Mayr (1982, 561–566), this was the official end of typologism in evolutionary biology. Posterior interpretations of this period also referred to this distinction, and the best example of this notion serves the classic reinterpretation of “eclipse” by Peter Bowler. Notwithstanding that Bowler (1988, 107–110) ultimately disagreed with Mayr's conclusions, he agreed that the inability of the nineteenth-century scientific community to adopt “populational thinking” was the key to rejecting Darwinism.

Contemporary historiography is becoming increasingly critical of the distinction between typological and populational thinking, pointing to the artificiality of Mayr's division, who has repeatedly changed the interpretation of both terms, often making it dependent on the context in which he used them (Chung 2003). Modern historians of biology (i.e. Lewens 2009; Witteveen, 2017; Levit, Meister 2006; Amundson 1998) note that the distinction proposed by Mayr served him rather to construct a narrative according to which synthesis represented a correct view of species, as opposed to the misinterpretations proposed in the pre-Darwinian theories and the alternatives developed during the “eclipse.” If this “essentialism story,” as Mary P. Winsor (2006) calls it, did not have much coverage in historical facts, but rather had a revisionist character, we may ask a question: then how were species treated in non-Darwinian evolutionism? In order to answer it, we need to focus again on the problem of species in non-Darwinian theories of evolution. As emphasized by Maurizio Esposito (2021, 32), paying attention to the context of a given concept should be of paramount importance for historians of science. According to him, a historian of science should bear in mind that ideas fluctuate and are dependent on the historical and cultural context. As Paul Feyerabend (1981, 76–91) wrote, concepts change their meanings depending upon the context of the theories in which they are used. Consequently, they can be incommensurable to each other even though they refer to the same philosophical

concept, e.g. essentialism. Given that neo-Lamarckism and orthogenesis represented different visions of evolution, we should expect that they had incommensurable concepts of species. Even if both of these theories were founded on an essentialist understanding of species, this essentialism was incorporated differently in their context.

In this article, I will focus on the issue related to the concept of species in non-Darwinian evolutionary theories: neo-Lamarckism and the theory of orthogenesis. The article will consist of three main parts: in the first one, I will show what concepts of species have been proposed in Darwinism and neo-Lamarckism; in the second one, I will show how species were understood in the theory of orthogenesis; in the third one, I will try to explain the source of the differences in the understanding of species in the theories falling under discussion. However, the aim of the article is not to fully reconstruct the concept of species in non-Darwinian theories, but rather to show the main features that the evolutionists, who created these theories, ascribed to species in the context of their visions of evolution. I will also use Ernst Mayr's terminology to describe the analysed concepts of the species. I justify this decision by the fact that I want to show that the elements of "typology" and "population" coexisted in non-Darwinian theories, which in turn will show how the dichotomy proposed by Mayr is misleading and blurs the more complex problem of understanding species in the theories falling under discussion.

Scope of Analysis

In order to present the concept of species adopted in neo-Lamarckism and orthogenesis, I have reviewed the views of the most significant scholars related to both of these trends, and by means of comparative analysis, I tried to identify common elements in their writing devoted to species. Within the framework of neo-Lamarckism, I have analysed the works of Samuel Butler, George Henslow, Edmund D. Cope, Alpheuss Hyatt, Alpheuss Packard, and John Ryder. Within the framework of orthogenesis, I have analysed the writings of Carl von Nägeli, Theodor Eimer, Henry F. Osborn, Leo Berg, and Henri Bergson.

The Concept of the Species in Darwinism and neo-Lamarckism

Discussing the problem of species, one shall start with Darwin himself. His concept of a species is the subject of much debate due to the fact that the author himself in the publication *On the Origin of Species* did not specify what a species is. In a rather controversial statement, Darwin (1859, 52) wrote: "I look at the term species, as one arbitrarily given for the sake of convenience to a set of individuals closely resembling each other." This statement later led Ernst Mayr to conclude that Darwin adopted a

nominalist vision of species. According to Mayr (1982, 267-269), Darwin adopted populationist thinking about species in his theory, but then he began to move away from it while studying botanical works that directed him towards nominalism. The claim that Darwin was a nominalist is an obvious exaggeration. Darwin defended himself against critics' allegations that he did not believe in species by writing to Asa Gray: "How absurd that logical quibble;—if species do not exist how can they vary? As if anyone doubted their temporary existence" (Darwin Correspondence Project, "Letter no. 2896"). Darwin's critique did not concern the taxonomy itself, but rather the classical systematics in which term "species," as he noted, "...includes the unknown element of a distinct act of creation" (1859, 44). Thus, according to Darwin, taxonomy should be reformed to more accurately reflect the relationships existing between animals, and to be able to classify them according to their origin. Hence, ultimately, he saw the future of taxonomy in embryological research, studies of atavisms and geological record – that is, in research similar to the one presented by Ernst Haeckel in his *Generelle Morphologie* (Darwin 1872, 381). Modern historians of science (Gayon 1998; Winsor 2013; De Quieroz 1997) acknowledge that Darwin had ultimately failed to reform the taxonomy. Nineteenth-century naturalists continued to use Linnaeus taxonomy, recognizing in the theory of evolution the justification for the realness of taxonomic divisions. And so, a close associate of Darwin, Joseph D. Hooker (1859, II-V), stated that the work of the creationist-taxonomist and the evolutionist-taxonomist would be the same, with the difference, however, that the latter would take into account that species would change their place in the taxonomic hierarchy over time. In later years, this situation was commented on by William Bateson (1913, 10-16), who wrote that Darwin failed to reform the taxonomy, and naturalists still assumed that species constitute permanent and unchanging entities.

Mayr also pointed out that this problem could have been caused by Darwin himself: "Unfortunately, Darwin used strictly typological language, and by using terms like 'form' and 'varieties,' instead of 'individuals' or 'populations,' he introduced confusing ambiguity" (1982, 268). Darwin, as stated by Mayr, used typological language to express a vision of a species that was initially populationist and later nominalist. It supposedly contributed to evoking this harmful "ambiguity." However, Mayr's assessment is anachronistic. We should not forget that a naturalist always works in a certain historical and cultural context, which determines their language and the metaphors they use to explain their thesis. Mayr's claim that Darwin was guilty of not introducing populational language into his work is unfounded, as he had to use available and already known terms to make his theory intersubjectively intelligible. Moreover, it seems that there is a simpler explanation

of what kind of species' concept Darwin had and why it could lead back to "typologism," without referring to different levels of "ambiguity" in his terminology as Mayr did.

The easiest way to explain Darwin's concept of species is to refer to the entire context of his theory of evolution. According to the theory, species had to have such a "structure" that natural selection was able to act on them, i.e. they had to be variable. Darwin (1859, 45) wrote that: "No one supposes that all the individuals of the same species are cast in the very same mould." There must have been a multitude of features among individuals, since the natural selection itself did not create the features *ex novo* and only evaluated the existing ones from the perspective of their adaptation (Darwin 1859, 466-467). This vision of the species will be called later "fluctuation" model (Morgan 1908, 267) and will be most precisely expressed by Alfred R. Wallace. According to Wallace (1900, 302): "The species is therefore composed of a fluctuating mass of variable units which yet maintain the same general average of characters." The species were not homogeneous populations, but consisted of multiple different individuals – therefore, under the influence of selection pressure, they were able to survive in a changeable environment. Wallace perceived variability as a universal law of nature. However, was it the same with Darwin? Although Darwin indeed accepted that species are naturally malleable (Darwin 1859, 31), he did not consider this as a permanent feature of species. In discussion devoted to the variability of the domesticated races, he stated that variability is not something that occurs constantly (Darwin 1859, 43). Variability was governed by certain fixed, but unknown to Darwin (1859, 159), laws, e.g. he recognized environmental change as one of the possible causes of variability. The change in the environment could therefore have an effect on the reproductive organs of the individuals, which resulted in the emergence of new varieties that could be later affected by natural selection (Darwin 1859, 131-134). This information also gives an intriguing insight into how selection worked – "unless profitable variations do occur, natural selection can do nothing" (1859, 82). Thus, selection process was always ready to work, yet did not need to work always, for the reason that there needed to be some diversity that it could operate on. And this diversity is caused by the laws of variation unknown to anyone, which, for example, may be dependent on the change in the environment. The picture of evolution that Darwin draws for the reader is structured in the following manner: the species remains unchanged, then emerges a factor, e.g. environmental, which causes variability in the species, natural selection acts on these varieties, and, consequently, transforms the species (i.e. species evolve). Although Darwin assumed that species do not consist of individuals who are identical copies (1859, 45), however, unlike the co-author of

his evolutionary concept, he believed that there must be some factor that would produce enough diversity, that would allow natural selection to work. A similar understanding of species development can be observed in neo-Lamarckism.

The question of what causes variability was one of the main problems posed by neo-Lamarckists, as well as their main objection to Darwin's theory. As it was emphasized, selection, as a mechanism of elimination, could not produce new features on its own, and due to that, some factor which would stimulate organisms to produce them was needed. Neo-Lamarckists continued their deliberations about variability from the point where Darwin had left them. This continuation led them to Lamarck's laws of use and disuse. According to this law, when the environment changed, the organism tried to adapt to it. But what happened when the environment did not change and there was no factor to stimulate the organism to transform? One should suppose that the neo-Lamarckists also stated that evolution would not have taken place in such a case. This stemmed from the fact that they assumed a fairly simple vision of inheritance, which was based on copying the features of the ancestors without any modification. According to this process, species were not variable, and for a varieties to exist, something had to "disturb" process of the inheritance. Even in Cope's theory, in which the changes took place under the so-called growth force controlled by the consciousness of the organisms themselves, their transformations were still dependent on whether a factor initiating the process of change emerged. According to Cope's theory of psycho-Lamarckism, organisms responded to the environmental changes with the use or disuse of their organs, which led to directing their immanent growth force in such a way that they developed the appropriate features. These changes could be regarded as volitional for the reason that organisms have always been guided by their own good (Cope 1871, 246-256; Cope 1887, 35-36). However, as was added by Cope, the consciousness that guided their actions was hereditary. It means that the parents passed onto their children a will, that appropriately directs the location of the growth forces, in a way that the descendants ultimately reproduced their form (Cope 1904, 479-480; Cope 1887, 29). In order for the offspring to be able to change the form inherited from their parents, they had to encounter some new environmental impulse, which would stimulate them to act, react and to allocate the growth forces in a new way (Cope 1887, 428). Samuel Butler, also proclaiming the volitional nature of evolutionary changes, envisioned evolution in an akin way.

According to Butler, inheritance was about transmitting memory. Memory was the carrier of the skills that the organism possessed, which allowed it to survive in a given environment, and determined its structure. In order for a change to take place, the organism had to be in a new environment that would evoke the need to

adapt, and thus create new features (1878, 126-138). So once again, as similarly observed in Cope's concept, we see the assumption that in a static environment species remained unchanged and evolution did not take place. The requirement for this evolutionary "determinant" was also reflected in neo-Lamarckists' criticism of Darwin's theory. At this point it should be emphasized that the postulate of the necessity of the existence of such a "determinant" was justified only assuming the inherent invariability of the species. Due to the fact that inheritance was based on exactly copying the features from one generation to another, such species could be interpreted in a "typological" way. This assumption made Butler (1878, 226-227, 264-265) ask the question: if organisms do not change from generation to generation, why would they develop new features? Hence, it was necessary to indicate the external environmental factor which "activates" Lamarck's laws and thus causes variability. Hyatt (1884b, 149), Packard (1894, 340), Henslow (1895, 9-28) and Ryder (1895, 600-602) also pointed to the necessity of the existence of an external determinant contributing to the emergence of new characteristics.

Ernst Mayr (Mayr, Linsley, Usinger 1953, 9-11) initially pointed out that neo-Lamarckian theories assumed a populational vision of the species. In his later works, he usually ignored the populational aspect of the neo-Lamarckist theories, while in his famous *The Growth of Biological Thought*, it was limited only to mentioning that they accepted "populational speciation" (1982, 506). Therefore, one may wonder whether in neo-Lamarckism there are actually noticeable populational threads in the way of understanding species. And it seems there are. This conclusion is drawn from the fact that some neo-Lamarckists accepted natural selection as one of the mechanisms of evolution (e.g. Henslow 1895, 10-11; Henslow 1908, 14-15; Hyatt 1880, 196; Packard 1904, 421). Of course, the role of selection in neo-Lamarckian theories was not as crucial as in Darwinism and was limited (as Mayr also noted; 1982, 489-490) to the mechanism for eliminating maladjusted individuals. However, the mere fact that they relied on this mechanism meant that their vision of the species must have been populational to some extent. The existence of a mechanism to eliminate maladjusted individuals meant that neo-Lamarckists assumed the possibility that not all organisms were able to adapt to the environmental changes. Edward Dinker Cope (1871, 258-259) even wrote about the "intelligent selection," which was to derive from the fact that only those individuals who discovered a successful way of adapting in the new environment survived. When the environment changed, the species ceased to be regarded as something stable and unchanging, and began to be seen as a population filled with individuals who reacted differently to the environmental stimulants, and thus stood different chances of survival. If neo-Lamarckian theories were purely typological, one would

expect that all members of a species would always react in the same way to a given environmental stimulant, and that the species as a whole would transform into a form adapted to the new environment. And so, evolution would look the same as in Lamarck's theory. However, the use of selection in neo-Lamarckism meant that success in adaptation was not guaranteed.

In neo-Lamarckian works, we can observe a clear division of the “life cycle” of species into two modes: 1) when the environment remains unchanged, then the species remains a static entity; 2) when the environment changes, then the species is a changeable entity, evolving through the laws of use and disuse. Moreover, some neo-Lamarckists clearly divided these two periods, distinguishing them as moments of the internal harmony and disharmony of organisms. Following the footsteps of Herbert Spencer, they wrote about the existence of molecules that compose a coherent system forming the organism (Ryder 1893, 195-198), about the harmony between the inherited memory of an ancestor and the environment in which a given organism functioned (Butler 1878, 221-224), or about recognizing process of adaptation as a way of harmonizing different elements of nature (Henslow 1873, 210-212). The pattern, however, always remained the same: when a species functioned in a stable environment, it was characterized by internal harmony, and when new factors began to work on it, the harmony was disturbed. Regaining harmony was associated with the transformation of the whole organism. Disharmony was therefore a sign of the beginning of evolutionary changes.

Therefore, Neo-Lamarckism and Darwin's original theory shared a similar pattern of evolutionary change, which was divided into stable periods when the species remained unchanged, and a time of change when it began to differentiate under the influence of an external factor. Evolution, in both cases, had to be triggered by a factor that stimulated species' variation. Translating this into Mayr's language, one can say that there must have been an impulse that pushed the species from the “typological” to the “populational” state.

The Concept of Species in the Orthogenesis

Orthogenesis, a trend of the nineteenth-century evolutionism, was perceived in the source literature as a concept that is difficult to characterize unambiguously. As noted by Igor Popov (2018, 202-203), most of the features traditionally attributed to the theory of orthogenesis, such as the promotion of vitalism, were not universal and appeared only in exceptional cases. Peter Bowler (1992, 141), noticing the multitude of orthogenetic views, characterized this trend as simply the most anti-Darwinian among the theories of evolution that arose during the “eclipse.” However, there are some common features of orthogenetic theories (at least in the cases

analysed by me), which are most distinguishable in comparison with the neo-Lamarckian theories.

In orthogenesis, similarly to neo-Lamarckism, the influence of the environment on the organism was a key evolutionary factor. The theories of orthogenesis that I've analysed also accepted the laws of use and disuse, but treated them as a secondary evolutionary mechanism. Early orthogeneticists, such as Nägeli (1914, 23) and Eimer, argued that environmental influences directly impacted species causing their evolution – so there was no need for an activity of organism to enable its transformation. Eimer (1890, 153) wrote directly about how environmental factors transform organisms without the need for use and disuse of organs: "... I Believe (...) that external influences – climate, light, warmth, moisture, and differences of food – modify organisms directly, even without the aid of selection, and that inasmuch as the modifications so caused are inherited, they will give rise and must give rise to new species." The species did not have to actively adapt to the environment – the changes took place "automatically." At this point, it is worth to emphasize that the neo-Lamarckists accepted this type of evolutionary mechanism – Cope referred to it as "physiogenesis" (1904, 227) – but limited its influence only to the plant. In the case of orthogenesis, the mechanism of physiogenesis was not only the leading evolutionary law, but also had an impact on how orthogeneticists imagined the structure of organisms. Eimer, Nägeli and Berg stated that there are specific components of the structure of organisms, thanks to which organisms had a naturally mouldable character. In Nägeli's case, this element was idioplasm, which was part of the organism's protoplasm. It acted as a carrier of the organism's characteristics and was subject to inheritance. In the course of inheritance, the transferred idioplasm modified itself, improving the characteristics it was carrying, and also generating the new ones under the influence of external factors (Nägeli 1914, 6-17). In Berg's case, the basic factor of change was the recombination of the molecules which composed the organism and which also constituted hereditary material. This recombination was a natural consequence of the inheritance process, which also resulted in the immediate structure transformation of the organisms (Berg 1969, 68-69). Similar to Nägeli's views, Berg (1969, 115-118) also argued that the changes might additionally take place under the influence of environmental factors, but still they were of a secondary nature when compared to the internal factors. In Eimer's case, the role of hereditary material was played by protoplasm which also constituted the factor responsible for the possibility of organisms' transformation: "protoplasm has the property of being altered and transformed by the action of external stimuli" (1890, 317).

In orthogenesis, the dependence of evolution on the internal factor was associated with the postulate of an immanent evolutionary force's existence. Evolution therefore took place thanks to the immanent forces, which were most often associated with either biochemical processes (Nägeli 1914, 28-29; Eimer 1898, 15; Osbron 1933, 699), or with those of a metaphysical nature (as in the case of Bergson's *élan vital*). Due to the existence of an internal evolutionary force, species developed spontaneously, improving their features and adapting to the environment. In orthogenesis, species' variability was therefore understood as their natural feature. Leo Berg (1969, 10-11) even discredited neo-Lamarckist questions about the causes of the variability, claiming that changes in the structure of organisms are their inherent property. Here we can observe a substantial difference between the Darwinian/neo-Lamarckian vision and the proposition of the orthogenesis. In the first case, evolution had to be "started," in the second one – the process was "automatic." Moreover, since the process of evolution was not dependent on the organism's reaction, but took place "automatically," being determined by the environmental factors and immanent forces, the species in orthogenesis became naturally dynamic entities, and not, as in neo-Lamarckism, were the transformations of had to be somehow "triggered," naturally static.

This difference is well depicted by Osborn's studies on the evolution of the extinct mammals from the Titanotheres family (Brontotheriidae). According to the concept he proposed (Osborn 1911, 825-826), evolution took place in four possible ways: firstly, by increasing the volume of the organism; secondly, by losing its features; thirdly, by changing the proportions in parts of the organism (he called the phenomenon allometry, and the features resulting from it – allometrons); and fourthly, by the development of new features as a result of adaptation (he called this process rectigradation). Pondering over the evolution of the Titanotheres family, he inscribed it in the seemingly neo-Lamarckian pattern – organisms developed in a "normal" manner under constant environmental conditions, and when the conditions changed, they acquired new adaptive features. For neo-Lamarckists, this change acted as an environmental stimulus needed to "trigger" evolution. However, the entire evolutionary process was not limited to the "rectigradation" process, because according to Osborn, even in a stable environment species changed under the influence of allometric mechanisms. The organisms developed regardless of the changes in the environment. Moreover, the new features, that the species acquired under the influence of an external factor, were further modified in the process of allometry (Osborn 1911, 826-827). Osborn thus believed that the natural state of species was the state of constant modification of the proportions of their organs. This vision was similar to the descriptions of the evolutionary changes of Berg, Nägeli,

and Bergson. Species were to develop all the time, regardless of the influence of environmental factors, be it either through the influence of the internal force of the organisms (Bergson 1911, 81-94; Nägeli 1914, 33), or through modifications in the hereditary material (Berg 1969, 68).

All the orthogenesis theories that I have analysed had two things in common: first, they assumed the natural mouldability of an organism – which meant that species did not actively try to change (as in neo-Lamarckism), and that change happened naturally under the influence of the environment; second, they assumed the existence of an inherent “driving force” of evolution which was constantly at work. In short, orthogeneticists considered variability as a permanent feature of species rather than an outburst of activity triggered by an environment, which was the case in neo-Lamarckian theories. The assumed dynamicity of species was therefore a significant difference to the static model assumed in the previous evolutionary theories. From Bergson's perspective, it was even the basis for research into the animate nature. According to Bergson (1911, 17-30), living beings, remaining in constant motion, eluded human mind, which was accustomed to the static nature of physical entities. The most obvious example of such a mistake were attempts to inscribe evolution in the cause-and-effect relationships. In the case of living creatures, it was not possible, because, firstly, they were influenced by many causes, and secondly, there was no such thing as an effect, for the reason that they were subject to continuous, never-ending development. Bergson clearly deviates from the scheme of “environmental determinant – an organism's response,” proposed in neo-Lamarckism, in favour of a more dynamic vision of the species as an entity constantly subject to evolutionary forces.

Interestingly enough, the dynamic concept of species was still in line with essentialism. Orthogeneticists have assumed that there are some inherent structural limitations that steer the evolution of species. The evolutionary path of species was limited by their anatomical structure – orthogeneticists saw the process of evolution as linear due to the reason that species could only change form in a limited number of ways. The evolution of organisms has been compared by Eimer (1890, 23) to that of a crystal. Organisms, similar to crystals, develop certain shapes that limit the directions of further modifications. Nägeli (1914, 3), Osborn (1921, 157-159) and Berg (1969, 382-384) also adopted a similar vision of self-determination. This idea led Mayr to the conclusion that orthogeneticists were adopting an essentialist concept of species. He wrote that, since species evolved according to an evolutionary trend determined by their structure, their transformation resembled an actualization of the potentiality in classical metaphysics (Mayr 1982, 352). Indeed, among orthogeneticists, there were direct references to hylomorphism, e.g. Berg (1969, 153)

and Osborn (1934, 228-230) did not hide that they were inspired by the philosophy of Aristotle. However, the question is whether this essentialism completely excluded populationism? Or maybe the essentialist interpretation of the species was also accompanied by elements of populational thinking, as was the case in neo-Lamarckism?

Reading the works of orthogeneticists, it can be seen that they were aware of the variability of species resulting from either the different ways in which organisms respond to the same environmental factors (Berg 1969, 369-397; Eimer 1890, 382), or the modification of hereditary material (Nägeli 1914, 16-17), or the unpredictable effects of allometry (Osborn 1934, 702). Eimer (1890, 380-384) explicitly noticed that the constraints of the structure of organisms mean that they can react in different ways to the same environmental factor. A similar dependence was also noticed by Berg (1969, 103) and Nägeli (1914, 34-35), who stated that the constitution of organisms, apart from limiting the possibility of their transformation, additionally makes them react differently to the influence of the environment – hence, the new species could develop through geographic speciation. The supporters of orthogenesis accepted the existence of diversity within a species, which led them to the conclusion that new species can develop through speciation. In this sense, it can be concluded that in orthogenesis, populationalist threads of interpretation of the species are noticeable.

What is seen in both neo-Lamarckism and orthogenesis is the tension between the idea of evolution and essentialism. In neo-Lamarckism, it was resolved by recognizing species as naturally stable entities that changed only as a result of an organism's active response to external stimuli. Contrary to this perspective, in orthogenesis, the evolution was portrayed as a constant phenomenon that required no special “trigger”, and species were perceived as naturally variable entities. In addition, orthogeneticists assumed that not only species, but also entire phyletic lines, have essences that limit their further evolution. In both concepts, we can observe an interpretation of species presented in the spirit of essentialism, but it was integrated with them dissimilarly.

Where Do the Differences in the Understanding of Species Come From?

As mentioned earlier, the understanding of the concept of species should change depending on context in which it was applied. Larry Laudan (1984) explained that the ontological differences postulated in various theories are caused by influence of such factors as methodology accepted by certain scientist or their research goals. Thus, the methodology correlates with the assumptions of the scientists regarding the world they are studying (i.e. ontology), and in turn this vision of the world

influences the goals and methods that scientists adopt in their research. This conclusion, even if it may seem too obvious, may be helpful in analysing the differences in species concepts that existed between Darwinism, neo-Lamarckism, and orthogenesis. If they had different concepts of the species, we should also expect different goals, i.e. different problems that their followers wanted to solve through the research.

In Darwin's case, his research goal was clearly defined. As he wrote: "These facts (i.e. data collected during the journey on Beagle – comment by MW) seemed to me to throw some light on the origin of species – that mystery of mysteries, as it has been called by one of our greatest philosophers" (Darwin 1859, 1). However, the question remains: what did Darwin exactly mean by the origin of species? Did he mean the origin of all species that appeared in the history of the Earth? Or maybe he wanted to explain the reasons for the emergence of modern species? The first option would require Darwin to address the issue of the origins of life. This problem was considered by Darwin to be too complicated (Darwin 2009, 335), hence in *Origin of Species* he referred to it in a metaphorical way, writing about life as something that was "breathed" (1859, 484) into the first organisms. Unlike other evolutionists of that period (Bowler 1996, 79-81), Darwin was not interested in the reconstruction of species phylogeny. The question of the evolutionary past of the species was of course important to him, but only as a means of clarifying issues related to the present state of nature. Ultimately, his interest focused on the geographic distribution of species, improving their taxonomic classification, and explaining the existence of higher taxa (Darwin 1859, 484-487). For Darwin, the basic problem with the reconstruction of the phyletic lines was the incompleteness of the fossil record, which would not allow him to undertake such a task (Darwin 1859, 301-302). But even if the records were complete, the chances of reconstruction would still be minimal – as can be seen in the example of the origin of farm animals. In *On the Origin of Species* he writes: "But, in fact, a breed, like a dialect of a language, can hardly be said to have had a definitive origin. A man preserves and breeds from an individual with some slight deviation of structure, or takes more care than usual in matching his best animals and thus improves them, and the improved individuals slowly spread in the immediate neighbourhood. But as yet they will hardly have a distinct name, and from being only slightly valued, their history will be disregarded. When further improved by the same slow and gradual process, they will spread more widely, and will get recognized as something distinct and valuable, and will then probably first receive a provincial name" (1859, 40).

According to Darwin, the reconstruction of the evolutionary history of species was dependent on the time perspective, and due to the gradual nature of

evolution, we are unable to observe it in action. The changes can only be seen by comparing the current and past condition of the species (Darwin 1859, 263). While Darwin was not particularly interested in reconstructing the evolutionary history of living organisms, he believed that genealogy played an important role in biological research. It made it possible to formulate falsifiable hypotheses about the development of species based on the data available in the geological record. Darwin's research was often based on recreating the hypothetical past of a species, which is well depicted in his research into the domestic pigeon breeds. In this case, his deliberations lead to the thesis that all species of pigeons are descended from one common ancestor. According to him, this conclusion had an advantage over the creationist position because of its simplicity, and thus greater probability (Darwin 1859, 25-26). Darwin was interested in the evolutionary past of species only insofar as it allowed to explain the present order of nature. As Richard Delisle (2019, 26) put it, we can find in the *On the origin of species*: "... Darwin's profound commitment to a 'horizontal' approach to evolution: to travel in geographical space (today) is to travel in geological time (past)." In his view, the phenomenon of evolution is part of the species' past, constituting in a way the *conditio sine qua non* of their present existence. The problem was that the key question in his theory – what was the reason for the intraspecific variation on the basis of which the selection created modern species? – was left unanswered.

Goals similar to those of Darwin were also assumed by the neo-Lamarckists who were analysed for the purpose of this article. The work of neo-Lamarckists was as much based on creating hypotheses and confronting them with empirical data, as on the deductive-hypothetical method used by Darwin in his research. As observed by Bowler (1988, 146), the research of the nineteenth-century evolutionists consisted mainly of creating hypothetical evolutionary scenarios that were to explain how a given species emerged and how its adaptive features developed. And indeed, when reading the works of neo-Lamarckists, it can be noticed that they focused their attention mainly on recognizing what force could have influenced the organism to produce a given feature as a consequence. Hence, when describing the formation of the turtle shell, Ryder (1878a, 159-160) points to the attacks by predators that forced turtles to produce this characteristic; and when Henslow (1895, 231-233) deals with the differences in the stem lengths of plants – he will make them dependent on the availability of the sun. Even if it was acknowledged that the feature under study was not created as a result of the environmental influences, but rather thanks to the immanent forces of the organism, neo-Lamarckists were still able to identify a specific cause responsible for it – as, for example, Cope (1904, 275-282) did, linking the changes in the vertebrate skeletal system with the increased

movement of specific muscles. In neo-Lamarckism, a species was analysed in terms of how its specific organs developed, and for this aim, an attempt was made to come up with a hypothetical evolutionary scenario that would explain their development. The teleologism of the evolutionary process introduced in neo-Lamarckian theories confirmed the validity of this type of research – it showed that the organism was able to react to a change in the environment by developing an appropriate feature. Thanks to this assumption, deliberations on evolution could be presented as cause-effect sequences in which an environmental stimulant provoked a reaction of the organism and which could be reconstructed during the research. This action-reaction model, through the prism of which the neo-Lamarckists imagined the operation of nature, was well expressed by Henslow, who was defending his methodology in the following way: “When one discovers scores of plants of no affinity putting on precisely the same structures under identically the same conditions of life, we are justified in recognizing a cause and effect” (1908, 20).

This way of outlining the research goals coincides with the vision of the species of Darwinism and neo-Lamarckism. If evolution must be “triggered,” the naturalist's goal is to stipulate what the exact “trigger” was. However, Darwin, not knowing the causes of the variability, was unable to identify the immediate cause of the origin of species. His concept did not show a clear reason for the emergence of a particular species, due to the fact that the theory of natural selection, probabilistic in its nature, did not allow for an accurate reconstruction of the evolutionary path of the species. And here come the neo-Lamarckists who were able to pinpoint the exact reason why certain features evolved – they focused on specifying the stimulus that “triggered” the evolution. Thus in the 19th century, neo-Lamarckism could be seen as an improvement of Darwinism.

In the case of orthogenesis, we have another shift in research interests related with the vision of the species. Orthogeneticists clearly departed from the method of research which was based on identifying the possible causes that led to the development of a given characteristic. In the writings of the representatives of this trend, we can find multiple explanations why such research is to be considered unsustainable. Firstly, because of the belief that the environment affected the organism as a whole, so there was no single specific cause responsible for developing adaptation (Osbron 1934, 207; Berg 1969, 264-265); secondly, it was difficult to distinguish which features developed as a result of adaptation and which developed naturally by the action of immanent evolutionary forces and did not have adaptive value (Eimer 1898, 24). For example, Osborn, when analysing the development of mammalian teeth, noticed that not all changes could be explained only by the process of use and disuse. Finally, pointing to allometry and aristogenesis as the main

evolutionary processes, he gave up considering what the specific cause of these changes were: "What evokes an aristogene from the gene plasm is as mysterious to Us as what evokes a horn rudiment in the skull of the titanother. We remain (...) purely on observational and inductive grounds and simply make statements of fact or of principle without offering any explanation" (Osborn 1934, 227).

For orthogeneticists, pointing to specific reasons for the formation of given features became something beyond scientific possibilities. Such a change of research goals was closely related to the ontology promoted in orthogenesis. The assumption that evolution is a natural phenomenon which does not have to be triggered decreased the importance of the question regarding evolution's causes. This was also explicitly expressed by Berg (1969, 10-11). Orthogenesis began to focus on recognizing certain constant evolutionary laws that would be helpful in predicting what the evolutionary future of the species would look like. As a result, prognostic laws were created, such as Eimer's universal law of transmutation and Berg's phylogenetic acceleration. The first one indicated that the changes in pigmentation will always run from single-coloured longitudinal stripes or spots to a uniform colouring (Eimer 1898, 26). The second stated that the features appearing in young animals and disappearing in adults are a harbinger of the future evolutionary changes (Berg 1969, 73-80). This attitude toward finding permanent evolutionary laws will be further emphasized by Osborn and Berg, who in turn will link their search for the laws of evolution with the legacy of Aristotle's philosophy. As both argued (Osborn 1905, 37-57; Berg 1969, 153, 405), evolutionary biology should be constructed on the basis of certain fixed laws of science, thereby departing from the chaotic picture of nature proposed by Darwin. One of the later supporters of orthogenesis, Otto Whitman (1919, 10-13), stated that orthogenesis was a response to biological theories proclaiming the unpredictability of evolutionary mechanisms, and by the same token, introducing the vision of fixed, predictable laws of nature abandoned with Lamarck's teleologism.

Orthogeneticists, observing species as naturally evolving beings, stopped looking for the causes of their variability, and tried to recognize the laws which determined their evolution. One can notice in orthogenesis the beginnings of treating evolution as a permanent element of the natural world, which did not have to be triggered by any external factor. Orthogenesis could therefore be considered a refinement of both neo-Lamarckism and Darwinism, as it deviated from the static view of the species, promoting its more dynamic vision, which was more in line with the idea of evolution as a natural phenomenon occurring in nature. For Darwin, evolution was merely a process by which he could retroactively explain the existence of modern biodiversity; then for orthogeneticists, evolution became a

continuous process in which species, understood as naturally mouldable entities, were constantly transformed by the laws of nature.

Summary

In this article, I have tried to show that the dichotomy of essentialism/typologism and populationism oversimplifies the concepts of species that have been proposed in neo-Lamarckism and orthogenesis. In these evolutionary theories, both typological and populationist themes can be spotted. The thesis that non-Darwinian theories were based on only one premise – as Mayr contended in the context of essentialism – was wrong. Moreover, in the article, I tried to show that non-Darwinian theories developed original concepts of species – if in Darwinism and neo-Lamarckism, a species was static and evolution had to be triggered by external factors, then in orthogenesis, the understanding of species was more dynamic and was understood as naturally mouldable and evolving. This change was related to the change of research interests. Darwin's original work was focused on explaining the genesis of the existing species. The evolutionary past of species was treated by the creator of natural selection theory as a hypothetical reason for the existence of the present order of nature. However, Darwin, not knowing the reasons for the occurrence of variability, was unable to provide the specific reasons for the emergence of the given characteristics. As observed by Mayr (1982, 412-413), Darwin did not give the reasons for the speciation – even dismissing Mortiz Wagner's geographic speciation as inconsistent with his own theory (Mayr 1982, 565). In neo-Lamarckism, attempts were made to recognize the causes of the formation of species by referring to the laws of Lamarck. Considering that neo-Lamarckists assumed the same “life cycle” of a species as Darwin – they saw in species static entities whose evolution had to be “triggered” by something – it can be concluded that they presented a more accurate evolutionary theory (as for the conditions of the 19th century natural science), as they indicated the cause of variability, i.e. the factor “causing” the evolution of species. Orthogenesis, by promoting the concept of species as a naturally evolving entity and eliminating the “trigger” for change, made a natural step forward in evolutionary biology. Naturalists were able to move away from considering what “triggers” evolution, and began to wonder which laws govern its course.

Due to the limited scope of research, the considerations presented in the article do not constitute an exhaustive analysis of the concept of a species in neo-Lamarckism and the theories of orthogenesis. However, they can make a meaningful contribution to the in-depth research of this kind. Especially that in the present historiography we can observe a shift from the pejorative interpretation of the so-called “the eclipse of Darwinism,” popularized by Ernst Mayr (e.g. Largent, 2009;

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Delisle, 2017; Ochoa, 2017). The species problem in non-Darwinian theories was far more complex than the existing populationalist/typologist narrative would suggest.

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DISCUSSION NOTES/ DEBATE

OLIVER AND SMILEY ON THE COLLECTIVE–DISTRIBUTIVE OPPOSITION

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ABSTRACT: Two objections are raised against Oliver and Smiley’s analysis of the collective–distributive opposition in their 2016 book: (1) They take it as a basic premise that the collective reading of ‘baked a cake’ corresponds to a predicate different from its distributive reading, and the same applies to all predicate expressions that admit both a collective and a distributive interpretation. At the same time, however, they argue that inflectional forms of the same lexeme (such as ‘is a man’ and ‘are men’) reveal a univocity that should be preserved in a formal representation of English. These two assumptions sit uneasily. (2) In developing their analysis, Oliver and Smiley come to the conclusion that even a singular predication such as ‘Tom baked a cake’ must be regarded as ambiguous between a collective and a distributive reading. This is so artificial that it hardly makes sense, and yet there seems to be no way out of the difficulty unless we are prepared to give up the basic premise just mentioned.

KEYWORDS: Alex Oliver, collective predicate, distributive predicate, plural logic, plural predication, Timothy Smiley

Introduction

Oliver and Smiley’s book *Plural Logic* (1st ed. 2013, 2nd revised and enlarged ed. 2016) is arguably one of the most important references on plural logic today. In turn, the way in which they analyse the collective–distributive opposition in this book, from the outset, is quite central to it:

A predicate F is *distributive* if it is analytic that F is true of some things iff it is true of each of them separately. It is *collective* if it is not distributive. (Oliver and Smiley 2016, 3)

In this definition, as we can see, the collective–distributive opposition is characterized as a distinction between two different kinds of predicates. On a different view, however, the collective–distributive opposition is seen as arising not from two different kinds of predicates, but from two different forms of predication (i.e. from two different ways in which a single predicate can be applied to a plurality

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of objects in relation to a given argument place, cf. e.g. Yi 2005, 480ff.; McKay 2006, 98ff.)

In the present note, I will raise two objections ('the double standard objection' and 'the singular case objection') to the way in which Oliver and Smiley articulate their position on the matter in their book. As we shall see, the second objection poses a problem for any other approach in which the collective–distributive opposition is characterized as a distinction between two different kinds of predicates.

Objection 1 (The Double Standard Objection)

In relation to the possibility of formalizing 'is a man' and 'are men' by means of two different predicate symbols, Oliver and Smiley (2016) claim (to my mind, convincingly) that

'is a man' and 'are men' are different inflectional forms of the same predicate, and we think that a formal representation of English should preserve this univocity. (115)

Just one page later, however, they point to

a common feature of English predicate expressions, namely that they may be construed either as collective predicates ... or as distributive ones. (116)

and they observe such a 'feature' to be very common indeed:

This is not a universal trait: some expressions can only be read distributively, e.g. 'is a man/are men,' and others only collectively, e.g. 'are compatriots.' But we venture the following qualified generalization. Whenever an expression may be read as a collective predicate which can be true of a single thing, there is also a distributive reading of the same expression. For example, 'baked a cake' may be read as a collective predicate—'baked a cake.'—which can incidentally be true of a single thing, and there is indeed a corresponding distributive—'baked a cakea.' (116)

It seems to me that they are applying a double standard here. Indeed, if inflectional forms of the same lexeme, such as 'is a man' and 'are men,' reveal a univocity that should be preserved in a formal representation of English, then it is hard to accept that a single predicate expression such as 'baked a cake' (and likewise in a vast majority of cases) must be regarded as equivocal with respect to its collective and distributive readings. While the former claim is totally convincing, the latter is not. It is much more intuitive, indeed, to assume that 'baking a cake is baking a cake' (i.e. that it is one and the same thing) whether people do it individually or collectively. This suggests that the difference between collective and distributive uses of 'baked a cake' lies in two different ways in which a single predicate can be

applied to its arguments, rather than in the existence of two distinct predicates that corresponded to that predicate phrase.

Objection 2 (The Singular Predication Objection)

The second problem concerns the application of Oliver and Smiley's characterization of the collective–distributive opposition to singular predications. Indeed, if we are to take seriously that 'baked a cake_c' (collective) and 'baked a cake_d' (distributive) are two different predicates, the question arises as to which of them features in a singular predication such as 'Tom baked a cake.' And the same problem will arise with any other singular predication in which the predicate expression admits both a collective and a distributive reading.

Oliver and Smiley's answer to this difficulty is disconcertingly simple:

Even the singular predication 'Tom baked a cake' is ambiguous, but harmlessly so. For by univocity, this singular sentence must share 'baked a cake_d' with the plural 'Tom and Dick baked a cake_d,' and it must also share 'baked a cake_c' with 'Tom and Dick baked a cake_c.' (116)

However, this purported ambiguity is too hard to swallow. Indeed, given that the distinction made by Oliver and Smiley between 'baked a cake_c' and 'baked a cake_d' depends on whether we can infer the singular from the plural (i.e. on whether we can infer 'Tom baked a cake' from 'Tom and Dick baked a cake'), it does not make sense to say that the singular case ('Tom baked a cake') is itself subject to the same ambiguity. Or, to put it conversely: if the singular case was really ambiguous between a collective and a distributive reading, then Oliver and Smiley's initial characterization of the collective–distributive opposition would be defective, because it refers to whether a predicate that is true of some things is also true of them separately, without specifying if the latter (i.e. 'being true of each thing separately') has to be understood in turn in a collective or in a distributive way.

Besides, for a sentence to be ambiguous it must have various possible meanings, i.e. we need to be able to specify what the different ways in which it can be understood are. In turn, these meanings should differ from one another in either truth conditions, justification conditions or any other semantic or pragmatic aspect. Furthermore, the context of utterance should normally be enough to pick up which of the possible meanings of the sentence is the one intended in one particular utterance, and once we have done that, the utterance in question will only grant those inferences in which it is that particular meaning and not another, the one that plays a role. Otherwise we would be committing a fallacy of equivocation.

None of these aspects appear to be present, however, in the case at hand. Indeed, Oliver and Smiley make no attempt to give a content to the putative

difference in meaning between ‘Tom baked a cake_c’ and ‘Tom baked a cake_a,’ and there appears to be no coherent way to do so. Notice, in particular, that ‘Tom baked a cake_c’ cannot be equated with ‘Tom cooperated in baking a cake,’ because that would make it derivable from ‘Tom and Dick baked a cake_c,’ thus invalidating Oliver and Smiley’s definition of the collective–distributive opposition.

Furthermore, Oliver and Smiley appear to be suggesting that any utterance of the sentence ‘Tom baked a cake’ will simultaneously have the two meanings in question (i.e. that it will simultaneously mean ‘Tom baked a cake_c’ and ‘Tom baked a cake_a’), something that again would be utterly atypical for an ambiguous expression.

All of this is so artificial, in sum, that it hardly makes sense. And there seems to be no way out of this difficulty, unless Oliver and Smiley are prepared to withdraw their characterization of the collective–distributive opposition in the first place. Indeed, for as long as the collective and distributive readings of a predicate expression such as ‘baked a cake’ are regarded as derived from two different predicates, the question will arise as to which of them features in a singular predication such as ‘Tom baked a cake.’ And there appears to be no way to give a coherent answer to that question.

This objection does not only apply to Oliver and Smiley’s analysis. In fact, any approach in which the collective–distributive opposition is characterized as a distinction between two different kinds of predicates (such as Linnebo 2017, §1.1; Florio & Linnebo 2021, §2.3) will sooner or later have to face this difficulty. This is all the more worrisome given that predicate expressions that admit both a collective and a distributive reading (like ‘baked a cake’) are by far the most common, at least in English.¹

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¹ In the preparation of this paper, I received help from Samuel Cuello Muñoz, Peter Kingston and *Proof-Reading-Service.com*.

Oliver and Smiley on the Collective–Distributive Opposition

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FURTHER REFLECTIONS ON QUASI-FACTIVISM: A REPLY TO BAUMANN

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ABSTRACT: This paper is a constructive response to Peter Baumann's comments concerning the argument from inconsistency and explosion that was originally introduced in "Can Knowledge Really be Non-factive?" Specifically, this paper deals with Baumann's two suggestions for how quasi-factivists might avoid this argument and it shows that they are both problematic. As such, his paper extends and strengthens the case against the view that knowledge is not factive, i.e. the view that knowledge implies that what is known is true or approximately true.

KEYWORDS: knowledge, factivity, approximate truth, dialethism, paraconsistency

1. Introduction

In a recent paper in this journal, Peter Baumann offers a friendly response to one of the criticisms leveled at quasi-factivism in "Can Knowledge Really be Non-factive?"¹ Quasi-factivism about knowledge is the view that knowledge implies only approximate truth rather than strict truth, and, despite the seeming counter-intuitiveness of quasi-factivism and the orthodox nature of factivism, the view has been defended recently by some influential epistemologists.² Specifically, Baumann focuses his attention on the argument from inconsistency and explosion (the AIE argument) from Shaffer 2021. This is because he takes it to be the strongest argument against quasi-factivism presented therein, and he offers two different ways that quasi-factivists might respond to the AIE argument. Respectively, he calls these the dialethism and paraconsistency (DP) response and the epistemic pluralism (EP) response. Here these two strategies for defending quasi-factivism about knowledge will be critically examined and rejected. So, the conclusion drawn here is that neither solution can save the quasi-factivist view of knowledge from the AIE.

¹ Baumann 2021.

² See, for example, Buckwalter & Turri 2020, Bricker (forthcoming), and Hazlett 2010.

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2. The Argument from Inconsistency and Explosion

The orthodox conception of knowledge incorporates the following condition:

(Factivity) If S knows that p, then p.

But quasi-factivists claim that one can know some propositions that are not strictly true, specifically one can know propositions that are only approximately true. But approximately true propositions are strictly false. So, the quasi-factivist holds that one can know at least some falsehoods. Quasi-factivists replace the factivity condition with this condition:

(Quasi-factivity) If S knows that p, then p is true or p approximates the truth.

Bauman takes the most serious objection to quasi-factivism to be the one from “inconsistency and explosion” and Baumann helpfully reconstructs the AIE argument as follows.³ First, suppose quasi-factivity is correct and one can know some proposition p which is strictly false but approximately true. If this is true, then S can be in the following not uncommon epistemic state:

(1) S knows that p,

and

(2) S knows that p is false.

Given an ordinary principle of closure and (2) we get:

(3) S knows that not-p.

Given (1), (3) and closure under conjunction introduction we can derive:

(4) S knows that (p and not-p).⁴

This is worrisome because we would have to attribute inconsistent beliefs to S. In fact, we would have to attribute to S a belief in a contradiction. As Baumann notes, the important implication of quasi-factivism here is that if beliefs in contradictions can constitute knowledge, then we are dealing with a view that tolerates valorizing knowledge of inconsistencies. Quasi-factivists thus face a serious problem about opposing inconsistency in all cases of knowledge of approximate truth. On this basis the AIE raises an additional problem for quasi-factivists as well. This problem involves the logical principle of explosion (i.e. that anything follows from a contradiction).⁵ Specifically, a subject who simultaneously believes p and not-p and

³ Shaffer 2021, sec.3.

⁴ See Baumann 2021.

⁵ See Shaffer 2021, 221.

who can acquire knowledge by deduction, can come to know any proposition. This seems patently absurd.

3. The Dialethism and Paraconsistency Solution

The dialethism and paraconsistency solution to the AIE is predicated on the idea that the undelaying logic of the propositions that are the objects of knowledge is classical and contains the notorious principle *ex contradictione (sequitur) quodlibet* (ECQ). This principle is the idea that contradictions imply every proposition. One reason that has motivated some thinkers to adopt paraconsistent logics is specifically that they do not treat ECQ as a valid form of inference. One reason behind dialethism is that this view allows that that some contradictions are true and that it is at least sometimes rational to believe contradictions.⁶ Thus, the DP solution is supposed to avoid the AIE argument by shifting the underlying logic of knowledge from classical logic to paraconsistent logic and it allows for the idea that the relevant contradictions in question might be true and rational to believe. Baumann suggests this stratagem as one way for the quasi-factivist to avoid the unpalatable conclusion of the AIE. But this solution comes at an intolerably high price and this can be seen in looking at the consequences of this view for semantics and probabilistic justification.

3.1 The Content Objection

The semantic content of a claim is what it rules out. Contradictions do not rule out anything. So, when one is in the sort of state that the AIE is based on (i.e. knowledge of contradictions) the subject is supposed to have knowledge that involves a proposition that does not rule out anything. This is one standard objection to dialethism,⁷ but there is more to be said here. It is not only that the proposition in question does not rule out anything, but also that, as a result, the proposition that the agent is supposed to believe *has no content*. This is because the semantic content of a proposition is what it rules out and contradiction rule out nothing. This can be seen most easily in terms of the widely accepted theory of possible worlds semantics, though the same point about meaning and “ruling out” is common to semantical theories.

Possible world semantics holds that the meanings of all well-formed declarative sentences in a language L_i are to be equated with the set of all possible

⁶ See Priest 2006.

⁷ See Priest, et al. 2018 and McTaggart 1922.

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worlds at which that sentence P is true.⁸ In other words, a meaningful sentence imposes a partition on the space of possible worlds, thus dividing that space into the worlds where P is true and the worlds where P is false. This is what constitutes meaning. Specifically, where P_{wff} are the well-formed declarative sentences of language L_i , $P \in P_{\text{wff}}$, W is the set of worlds $\{w_1, w_2, \dots, w_n\}$ at which P is true, and \bar{W} is the set of all possible worlds such that for each w_i , $w_i \in W$:

(Def. 1) The meaning, $|P|$, of any P in a given $L_i = W$.

There are, of course, a variety of views concerning the nature of possible worlds, and, hence, a variety of views concerning how we ought to interpret Def. 1.⁹ Nevertheless, whatever one says about the ontological nature of possible worlds, according to this theory the meaning of a sentence P (i.e. the proposition p that P expresses) is exhaustively given by specifying the various ways the total world could have been such that the sentence in question is true. Here, we will refer to the set of M that constitute W for a given P , as M , or the ‘ M -set’ of P . The M -set of a given P , is the semantic content of P in the Wittgensteinian and Popperian sense that the M -set specifies for P the “range that it leaves open to the facts.”¹⁰ The M -set is then just the meaning of P . But contradictory propositions rule nothing out *and hence have no meaning*.¹¹ As we have seen with respect to the AIE, the quasi-factivist is committed to the view that an agent S can know contradictions and, as we have just seen, is then committed to the idea that one can believe, be justified in believing, and know meaningless/contentless claims. Thus, the DP solution to the AIE is simply unacceptable and would come at far too high a price.

3.2 The Probability Objection

The probability calculus says that the probability of the negation of a claim is one minus the probability of that claim. More formally:

$$(T1) P(\neg p) = 1 - P(p).$$

⁸ See Lewis 1970 and Cresswell 1988.

⁹ See Melia 2003 and Lewis 1947, Carnap 1947, Hintikka 1969, and Montague 1974 for historically significant versions.

¹⁰ See Wittgenstein 1922, 41 and Popper 1959, 119-120.

¹¹ It is important to note that this objection cannot be avoided by claiming that tautologies and contradictions are meaningful, but do not rule out anything or rule out everything as is suggested in Priest, et al. 2018. It is perfectly reasonable to hold that tautologies are necessarily true but have no semantic content (i.e. they are merely terminological synonymies) and that contradictions are necessarily false and have no semantic content (they are the negations of merely terminological synonymies).

This follows from the axioms of the probability calculus (i.e. it is a theorem).¹² But, if there are true known contradictions this cannot be the case. Suppose that S is in the sort of state at issue:

(4) S knows that (p and not-p).

As we have seen in terms of the AIE, the derivation of (4) involves the following claims:

(1) S knows that p,

and

(3) S knows that not-p.

If S knows that p, then (on the standard analysis of knowing) S's belief that p must be adequately justified by S's evidence e. Typical theories of justification model such justification in terms of probabilities understood in terms of the axioms of the probability calculus. This includes T1. Moreover, on typical probabilistic theories of justification, if S *knows* that p, then S's belief that p is such that the $P(p|e) \geq k$, where k is the probabilistic "threshold" for adequacy must be (significantly) greater than .5.¹³ Accordingly, in the kind of cases under consideration, S's belief that p is such that $P(p|e) \geq k$ and S's belief that $\neg p$ is such that $P(\neg p|e) \geq k$, but according to T1 $P(p) = 1 - P(\neg p)$. To see the problem here, suppose that the probabilistic threshold for one's justification rising to the level of knowledge is .92, that S knows that p, that S knows that $\neg p$, that $P(p|e)$ for S is .93, and that $P(\neg p|e)$ for S is .93. But, given these assumptions, T1 implies the following claims:

(C1) $P(p|e)$ for S is .93 and $P(\neg p|e)$ is .07,

and

(C2) $P(\neg p|e)$ for S is .93 and $P(p|e)$ is .07.

But, the $P(p|e)$ cannot be both .93 and .07 on the same evidence and $P(\neg p|e)$ cannot be both .93 and .07 on that same very evidence. So, the quasi-factivist's view, when defended by appeal to the DP, yields probabilistic incoherence and is incompatible with the standard notion of justification. So again, defending quasi-factivism in terms of the DP defense has an intolerably high cost.

¹² See, for example Howson & Urbach 1993.

¹³ See Shaffer 2018.

4. The Epistemic Pluralism Solution

The other solution to the AIE that Baumann suggest on behalf of the quasi-factivist is the epistemic pluralism solution. This solution is considerably less radical than the DP solution and so it is much more plausible. Rather than introducing an implausibly radical revision of logic, the EP solution attempts to avoid the problem for quasi-factivism that the AIE raises by introducing multiple concepts of knowledge that can be represented as different indexed knowledge operators. Baumann characterizes the view as follows:

(Pluralism) There is more than one knowledge relation: for instance, knowledge of strict truths (“knowledge-s”) and knowledge of approximate truths and strict falsehoods (“knowledge-a”).¹⁴

So rather than there being one such operator K_p , there can be different *kinds* of knowledge and each such operator that represents a different kind of knowledge will have different properties. Most importantly, there can be factive and quasi-factive knowledge operators K_{-sp} and K_{-ap} respectively. The upshot is then that the possibility of contradiction on which the AIE is built can be avoided by showing that when the two different knowledge operators are properly substituted in AIE, we find that there are no actual contradictions involved. The relevant re-workings of the claims involved in the AIE are then as follows, where p is only approximately true:

(1*) S knows-a that p ,

(2*) S knows-s that p is false,

(3*) S knows-s that $\neg p$.

But there is no problematic analog of

(4) S knows that $(p \text{ and } \neg p)$,

in terms of know-s or in terms of knows-a. There is no contradiction in terms of knows-a or in terms of knows-s that follows from (1*) and (2*). In other words, there is nothing contradictory about the conjunctive claim S knows-a that p and S knows-s that $\neg p$. The contradiction identified in the original AIE argument is thus supposed to be the result of failing to see that the distinct knowledge claims that give rise to (4) in the AIE actually have the different forms K_{-ap} and $K_{-s}\neg p$. So, given the EP solution, there is no need to reject classical logic and adopt a paraconsistent logic and there is no need to endorse dialethism in order to avoid the conclusion of the AIE. This is simply because there is no contradiction involved in the sorts of examples

¹⁴ Baumann 2021, 459.

used to support the AIE and the threat of ECQ is thus supposed to be only apparent rather than real. This is a solution to AIE that is clearly preferable to the DP solution simply due to its being less radical. But is this solution really one that we should adopt rather than rejecting quasi-factivism? The answer defended here is a forceful “no”.

4.1 The Perils of Epistemic Pluralism

So, what exactly is wrong with the EP solution to the AIE? Essentially, it is easy to see that EP solution will not save quasi-factivism. There are several reasons why this is so. First, as Baumann notes, the solution to the AIE that employs the EP strategy is utterly ad hoc. The EP solution depends on the idea that there are at least two importantly distinct knowledge concepts and that the knowledge operator in (1) of the AIE is the K_s -a operator, while the knowledge operator involved in (2) and (3) of the AIE is the K_s -s operator. While this *might* be the case, it is certainly not obviously true. Why accept that this is actually the case? That it is possible that there are two separate knowledge operators involved in the AIE does nothing to eliminate the paradox in anything like a serious manner. Third, as Baumann notes, the pluralizing maneuver opens the door to further pluralization of the concepts of knowledge, with no obvious limitation. We might then, for example, consider adding Baumann’s knowledge-l concept to our conceptual arsenal or knowledge-i, where believing in the belief condition is replaced with imagining.¹⁵ Again, as Baumann notes, this begs the obvious question concerning why these various concepts are *knowledge* concepts, especially if they do not share any essential feature(s) in common.¹⁶ Third, pluralizing the concept of knowledge is a sure invitation to semantic confusion. Why not simply acknowledge that there are other concepts that are related to but distinct from knowledge? So, all of this indicates the inadequacy of both the DP and EP solutions to the AIE and suggests that rejecting quasi-factivism is the correct response to the AIE. Moreover, this importantly supports the ideas that epistemologists should explore knowledge-like states in addition to bona fide knowledge states and that we ought to be sensitive to the possibility of confusing knowledge with quasi-knowledge.

5. Conclusion

So, while Baumann’s suggestion of these two possible ways for quasi-factivists to avoid the AIE are interesting, they are ultimately unsuccessful as substantive

¹⁵ See Baumann 2021, 461.

¹⁶ Baumann 2021, 461.

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defenses of quasi-factivism. Quasi-factivists then need to look elsewhere for a solution to the AIE or they simply need to concede quasi-factivism. As things stand though, the latter option is strongly motivated. Knowledge is factive, but there are likely a host of knowledge-like, factive, non-factive and quasi-factive, propositional attitudes. This suggests that a bit of conceptual engineering is needed in order to distinguish such states and we may need to introduce more fine-grained terminological distinctions between these different states in order both to avoid the appearance of contradiction and to avoid the confusions that arise from our failing to have such tools in hand.

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