THE COLLAPSE ARGUMENT RECONSIDERED

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ABSTRACT According to Beall and Restall's logical pluralism, classical logic, relevant logic, and intuitionistic logic are all correct. On this version of logical pluralism, logic is considered to be normative, in the sense that someone who accepts the truth of the premises of a valid argument, is bound to accept the conclusion. So-called collapse arguments are designed to show the incompatibility of the simultaneous acceptance of logical pluralism and the normativity of logic. Caret, however, by proposing logical contextualism, and Blake-Turner and Russell by proposing telic pluralism, have sought to nullify the collapse problem. In the present article, after setting out these two approaches to the collapse problem, we argue that by using the concept of the 'rationality of beliefs' in order to frame the canonical purpose of logic, it can be demonstrated that if logical contextualism and telic pluralism are considered as philosophically significant logical pluralisms, a refined version of the collapse argument is still a threat for both of these kinds of logical pluralism.

KEYWORDS: collapse problem, logical contextualism, logical normativity, logical pluralism, telic pluralism

1. Introduction

Logical pluralism is the view that there is more than one correct logical system. Logical pluralism divides into different kinds.[1] In most types of logical pluralism, logic is considered to be normative, in the sense that by accepting the premises of a valid argument as true, one is constrained to accept the result of that argument. Some philosophers have tried to show that accepting the normativity of logic is incompatible with accepting logical pluralism, because it causes logical pluralism to collapse into logical monism. The so-called collapse problem was introduced by Priest[2] and Read[3] against Beall and Restall's logical pluralism.[4] According to Beall

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[1] See, e.g., Gillian Russell, "Logical Pluralism," *The Stanford Encyclopedia of Philosophy* (Spring 2019 Edition), Edward N. Zalta (ed.), URL = https://plato.stanford.edu/ archives/spr2019/ entries/logical-pluralism/.

[2] Graham Priest, *Doubt Truth to be a Liar* (Oxford: Clarendon Press, 2006).

[3] Stephen Read, "Monism: The One True Logic," in *A Logical Approach to Philosophy: Essays in Memory of Graham Solomon*, eds. David DeVidi and Tim Kenyon (Netherlands: Springer, 2006), 193-209.

and Restall's pluralism, normativity, along with necessity and formality, are core features of the logical consequence relation. In fact, they are the admissibility conditions of a logical system. The settled core of the concept of logical consequence is given by the Generalized Tarski Thesis:

> **(GTT)** An argument is valid if and only if, in every case in which the premises are true, so is the conclusion.[5]

If the collapse problem is correct, then, Beall and Restall's pluralism is untenable.[6] Caret therefore presents logical contextualism,[7] and Blake-Turner and Russell present telic pluralism,[8] in an effort to refute the collapse problem. In the present article, we try to show that if these versions of logical pluralism are considered as philosophically significant logical pluralisms, they remain subject to a version of the collapse problem that appeals to rationality in framing the canonical purpose of logic. The plan of the paper is as follows. Section 2 presents Priest's and Read's versions of the collapse problem. Section 3 explains Caret's and Blake-Turner and Russell's responses to the Priest's collapse argument, and we specify how these answers are supposed to eliminate the collapse problem. In Section 4, we determine the conditions under which logical contextualism and telic pluralism can be regarded as interesting and philosophically significant views. Based on these results, by introducing a new version of the collapse argument in section 5, we show that logical contextualism and telic pluralism face a dilemma: either they are not philosophically interesting, or the collapse problem remains. Section 6 concludes.

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[4] Beall and Restall's pluralism was first introduced in JC Beall and Greg Restall, "Logical Pluralism," *Australasian Journal of Philosophy* 78 (2000): 475–493 and JC Beall and Greg Restall, "Defending logical pluralism," in *Logical Consequence: Rival Approaches Proceedings of the 1999 Conference of the Society of Exact Philosophy*, ed. John Woods and Bryson Brown, (Stanmore: Hermes, 2001), 1–22, and then, with a response to many criticisms, integrated into JC Beall and Greg Restall, *Logical Pluralism* (Oxford: Oxford University Press, 2006).

[5] Beall and Restall, *Logical Pluralism*, 29.

[6] The collapse problem can also threaten other kinds of logical pluralism; however, in the present paper we restrict ourselves to Beall and Restall's pluralism.

[7] Colin R. Caret, "The Collapse of Logical Pluralism has been Greatly Exaggerated," *Erkenntnis* 82, 4 (2016): 739-760.

[8] Christopher Blake-Turner and Gillian Russell, "Logical pluralism without the normativity," *Synthese* (2018): 1-18, https://doi.org/10.1007/s11229-018-01939-3.

2. The Collapse Problem

The collapse problem is based on an argument that accepting logical normativity violates logical pluralism, reducing it to logical monism.[9] So if the collapse problem is plausible, logical pluralism would seem to be an inherently unstable position. Many philosophers have accepted the threat of collapse arguments.[10] Before we can continue, however, the meaning of 'logical normativity' must be established. As Beall and Restall put it:

> Logical consequence is normative. In an important sense, if an argument is valid, then you somehow go wrong if you accept the premises but reject the conclusion.[11]

Using MacFarlane's label,[12] we take the principle Wo- to express Beall and Restall's assumptions about logical normativity.[13]

> **(Wo-)** if the argument from P to Q is valid, then for all agents Z: Z ought to see to it that she does not both accept P and reject Q.

Now can we present Priest's and Read's versions of the collapse problem.

2.1 Priest's Collapse Argument

In *Doubt Truth to be a Liar*, Priest introduces his version of the collapse problem.[14] Suppose that L1 and L2 are two distinct logical systems that, based on logical pluralism, are both correct. Generally, in assessing the validity of $A \vdash B$ in L1 and L2, there are four possible situations: (i) valid in both, (ii) valid in L1 and invalid in L2, (iii) invalid in L1 and valid in L2, (iv) invalid in both. Assuming the truth of A,

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[9] Some philosophers have used the term 'normativity objection' for the collapse problem (see, e.g., Erik Stei, "Non-Normative Logical Pluralism and the Revenge of the Normativity Objection," *The Philosophical Quarterly* 70, 278 (2020): 162-177, https://doi.org/10.1093/pq/pqz040. Notice, though, that the collapse problem arises specifically through an argument called the 'collapse argument.'

[10] See, e.g., Priest, *Doubt Truth to be a Liar*, Read, "Monism: The One True Logic," Erik Stei, "Rivalry, normativity, and the collapse of logical pluralism," *Inquiry: An Interdisciplinary Journal of Philosophy* (2017), https://doi.org/10.1080/0020174X.2017.1327370, Stei, "Non-Normative Logical Pluralism and the Revenge of the Normativity Objection," Nathan Kellen, "The Normative Problem for Logical Pluralism," *Inquiry: An Interdisciplinary Journal of Philosophy* (2018), https://doi.org/10.1080/0020174X.2018.1548375, and Florian Steinberger, "Logical Pluralism and Logical Normativity," *Philosophers' Imprint* 19, 12 (2019): 1-19.

[11] Beall and Restall, *Logical Pluralism*, 16.

[12] J. MacFarlane, "In What Sense (If Any) is Logic Normative for Thought?" (2004), Unpublished.

[13] See Caret, "The Collapse of Logical Pluralism has been Greatly Exaggerated," 747.

[14] Priest, *Doubt Truth to be a Liar,* 203.

there is no problem with (i) and (iv) because in (i) both L1 and L2 engender the same obligations, and in (iv) they engender no obligation. But in (ii) and (iii), only one of the two systems acquires normative force. In the case where the argument is L1-valid and L2-invalid (or vice versa), because of the L1-validity (L2-validity), it follows that just L1 (L2) exerts a normative constraint. The problem is that by applying this argument to Beall and Restall's pluralism, the result will be a kind of monism, according to which classical logic is the only correct logical system. The reason is that every intuitionistically or relevantly valid argument is also classically valid, and according to Beall and Restall's pluralism, all these three logical systems are correct. Now, by using Wo-, in the case where $A \vdash B$ in classical logic, but $A \nvdash B$ in (say) intuitionistic logic, the normative force is that no one should accept A, and reject B. So it is the normative force of accepting *classical logic* that obligates agents to not accept both A and ~B.[15]

Note that, in principle, some arguments can be valid in L1 and invalid in L2, while others are valid in L2 and invalid in L1. The problem that arises in this case is that neither of the systems L1 and L2 is absolutely superior to the other, and so the result of the above argument is not necessarily a kind of monism. However, since the result of this argument is the rejection of logical pluralism, this is sufficient for our purpose in this article, and we need not examine this possibility in detail here.

2.2 Read's Collapse Argument

In a similar argument, Read assumes a condition in which $A \vdash B$ in L1 and $A \vdash \sim B$ in L3 are both valid.[16] As he writes (with some minor changes):

> Classical logic, L1, dominates L2, so does not disagree with it. Suppose it disagrees with L3, in that while *B* follows L1-ly from *A*, ~*B* follows L3-ly from *A*, while *A* is consistent—that is, there is some world, indeed this one, in which *A* is true. Should we infer that *B* is true, or that ~*B* is true?[17]

It is true that, in classical, relevant, and intuitionistic logic such a situation as described in Read's argument might not occur, but the burden of proof is on the pluralist to argue that accepting Beall and Restall's pluralism will not lead to such a situation. They have not limited their logical pluralism to classical, relevant, and intuitionistic logical systems. For example, Keefe claims that multivalued logic

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[15] For a detailed discussion see Caret, "The Collapse of Logical Pluralism has been Greatly Exaggerated" and Stei, "Non-Normative Logical Pluralism and the Revenge of the Normativity Objection."

[16] Although Priest also mentions this in a footnote in Priest, *Doubt Truth to be a Liar*, 203.

[17] Read, "Monism: The One True Logic," 197.

provides admissible instances of GTT within Beall and Restall's pluralism.[18] And, in a separate work, Restall counts dual-intuitionistic logic as a correct logical system.[19]

The result of Read's argument is not necessarily the collapse of logical pluralism into logical monism, i.e., the adoption of one logical system: nevertheless, this argument, if it works, shows that the correctness of the two different logical systems cannot be accepted, and therefore logical pluralism is untenable. But although at first glance, it seems that the result of this argument is that one should accept both B and ~B in the situation, the principle Wo- indicates that this is not the case. In this case, Read's argument shows that according to L1 the agent should not both: accept A and reject B, and according to L3 the agent should not both: accept A and reject ~B. So, by accepting logical pluralism, the agent should not accept A, and either reject B or reject ~B. Rejecting each one of B and ~B contradicts Wo-, and leads the agent to reject logical pluralism. Therefore, by accepting A, the only possibility that remains in this case is to suspend B. Suspending B means there is no contradiction. So, it seems that by merely using Wo-, Read's collapse argument does not threaten logical pluralism.[20]

Yet by using another version of logical normativity, Read's argument will indeed turn out to be a threat tological pluralism. Consider the following:[21]

> (Co+) If the argument from P to Q is valid, then for all agents Z: if Z accepts P, Z ought to accept Q.

According to Co+, in Read's collapse argument the agent should accept both B and ~B.So the agent should accept the truth of a contradiction. If, as in Beall and Restall's pluralism, we also consider classical logic as a correct logical system, then due to the explosion principle it explodes into triviality.[22] Therefore, by using Co+, Read's argument threatens logical pluralism. But the problem is that Co+ is stronger than what Beall and Restall mean by logical normativity; and, furthermore, Co+, and generally any principle with narrow scope, will be a target

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[18] Rosanna Keefe, "What Logical Pluralism Cannot Be," *Synthese* 191 (2014): 1483, https://doi.org/10.1007/s11229-013-0333-x.

[19] Greg Restall, "Pluralism and Proofs," *Erkenntnis* 79, 2, Supplement (2014): 279-291.

[20] Stei shows that suspending B leads to a collapse problem in Priest's argument (Stei, "Non-Normative Logical Pluralism and the Revenge of the Normativity Objection," 168); however, he does not consider Read's collapse argument. The above argument shows that it does not lead to a collapse in Read's version of collapse argument.

[21] Here we use the version that is presented in Caret, "The Collapse of Logical Pluralism has been Greatly Exaggerated." Note that this principle can be used in Priest's argument too, but the argument does not need such a principle to work.

[22] Stei, "Rivalry, normativity, and the collapse of logical pluralism," 13.

of Harman's skeptical challenges[23] to the normativity of logic.[24] So, using Co+ (and other similar versions) in Read's argument is not acceptable. Consequently, it seems that Read's version of collapse argument does not threaten Beall and Restall's logical pluralism, and we therefore do not examine it further here.

3. Answering the Collapse Problem

The above collapse arguments were used against Beall and Restall's Pluralism, but as Stei has argued,[25] the collapse problem applies to all versions of logical pluralism that assume that (i) there is more than one correct logical system, (ii) logical consequence is global in scope, (iii) there is rivalry between different logical systems (i.e., an argument is valid in one logical system, but is not valid in another), and (iv) that logical consequence is normative. According to Caret's logical contextualism, the logical consequence relation is not global[26] in scope, and thus this position resists the collapse problem by refuting (ii).[27] Meanwhile, Blake-Turner and Russell's telic pluralism denies that logic is normative.[28] So, at least at first glance, it seems that by accepting their logical pluralism the collapse problem no longer arises. Before we examine these claims, let's explain their versions of logical pluralism. We will thus try to show how collapse arguments no longer work once we accept Caret's logical contextualism or Blake-Turner and Russell's telic pluralism.

3.1 Caret's Logical Contextualism

In "The Collapse of Logical Pluralism has been Greatly Exaggerated," Caret states hat the best solution for the collapse problem is to adopt a contextualist gloss.[29] He

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[23] Presented in Gilbert Harman, "Logic and Reasoning," *Synthese* 60, 1 (1984): 107–127 and Gilbert Harman, *Change in view: Principles of reasoning* (Cambridge: MIT Press, 1986).

[24] See, e.g., Caret, "The Collapse of Logical Pluralism has been Greatly Exaggerated," 747.

[25] Stei, "Rivalry, normativity, and the collapse of logical pluralism."

[26] Note that the term 'global' can mean at least two things in discussions of logic. The first is 'absolute,' meaning invariant between contexts of application. The second is 'topic-neutral,' meaning independent of domain or content. Caret's view is not global in the first sense, although it is global in the second.

[27] Caret, "The Collapse of Logical Pluralism has been Greatly Exaggerated."

[28] Blake-Turner and Russell, "Logical pluralism without the normativity."

[29] There are other versions of logical contextualism (see, e.g., Stewart Shapiro, "Varieties of Pluralism and Relativism for Logic," in *A Companion to Relativism*, ed. Steven D. Hales, (Oxford: Blackwell Publishing, 2011): 526-552, reprinted in Stewart Shapiro, *Varieties of Logic*, (Oxford: Oxford University Press, 2014): §2), but they are not directly applied against the collapse problem. In this article, we refrain from discussing them.

argues that by relativizing the content of validity to contexts of use, we can maintain a normative principle like Wo- without fear that this engenders the collapse problem. He introduces a type of logical contextualism according to which 'validity' in different contexts determines different deductive standards. He writes:

> In simple terms, a deductive standard is an admissible class of cases that function as logically salient alternatives. Each context selects for a deductive standard and, this, in turn, gives content to validity attributions in that context.[30]

In this view, 'valid' is treated as an indexical expression whose content depends on the deductive standard of the context in which 'valid' used. In Shapiro's words, Caret's logical pluralism is a kind of indexical contextualism.[31] According to Caret, the character of the predicate 'valid' is given in the GTT, but every context selects for a separate deductive standard.[32] He writes:

> Any version of logical pluralism that endorses logics L1; ...; Ln can be translated into a contextualism on which deductive standards D1, ..., Dn allow each such logic to be the content of validity attributions in some context.[33]

As Kouri Kissel and Shapiro put it, by accepting Caret's logical contextualism, the normativity of logic is no longer global, because in this case deductive standards depend on the context of the usage of 'valid' within it and logical normativity is not considered as applying to thought as such.[34] For the logical contextualist, each admissible consequence relation is an eligible content of validity. So, in Priest's collapse argument, if L_1 and L_2 provide for a different assessment of the validity of $A \vdash B$, since the logical consequence is not global there is no conflict between the two assessments. Based on contextualism, validity relativizes to the context of use, and, in the case above, different predicates are attributed to the argument in each context. Therefore, Wo-obligates the agent not to accept the premises and reject the result of the valid arguments *in the related context*. In other words, L1 has normative force only in its context but not in the context of L2. So, Priest's collapse argument does not threaten logical contextualism.

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[30] Caret, "The Collapse of Logical Pluralism has been Greatly Exaggerated," 752.

[31] Shapiro, *Varieties of Logic*, 10.

[32] Caret, "The Collapse of Logical Pluralism has been Greatly Exaggerated," 753.

[33] Caret, "The Collapse of Logical Pluralism has been Greatly Exaggerated," 754.

[34] Terresa Kouri Kissel and Stewart Shapiro, "Logical pluralism and normativity," *Inquiry: An Interdisciplinary Journal of Philosophy*, (2017), https://doi.org/10.1080/0020174X.2017.1357495.

3.2 Blake-Turner and Russell's Telic Pluralism

Blake-Turner and Russell present a version of logical pluralism—telic pluralism—that, in contrast to Beall and Restall's pluralism, is not based on logical normativity. They claim that logic is not normative, and that the requirements that a valid argument places on us are due to the acceptance of epistemological principles that are not apart of logic. This view is summarized as follows:[35]

> (i) Logical theorems are descriptive (and not normative).
>
> (ii) Logical theorems are not about how we ought to argue.
>
> (iii) The normative consequences of logic stem from widely accepted epistemic background norms which have consequences for what we ought to believe.

According to telic pluralism, when we say that from P and $P \vdash Q$ we ought to believe Q, it is not because the rule, i.e., modus ponens, itself has normative force; rather, our demand for belief in (for example) true propositions is what is normative. In other words, accepting the results of valid arguments is based on the desire for some epistemic goals. Epistemic goals are what belief formation, reasoning, giving testimony, etc., aim at.[36] In deductive reasoning, our goal may only be to preserve truth, but our goal may also be *relevant* truth-preserving or *demonstrable* truth-preserving. Blake-Turner and Russell claim that, based on these various epistemic goals, classical, relevant, and intuitionistic logic are correct, respectively. So, logical pluralism has been proven without using logical normativity.[37]

Although denying the normativity of logic has been prefigured by some philosophers, including Harman,[38] its use to defend logical pluralism is Blake-Turner and Russell's innovation. But simply asserting that some epistemic norms are involved in applying logic does not by itself convey anything, and should not be considered as a novel proposal that resolves the collapse problem. For example, consider Field's logical pluralism that is based on his normative pluralism.[39] Accordingly to normative pluralism, there are different types of epistemic norms in which beliefs are formed to achieve them. By applying this kind of normative pluralism to logic, the result is that there are different possible logics. Relying on these epistemic norms, one can assess which of these logical systems is more

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[35] Blake-Turner and Russell, "Logical pluralism without the normativity," 3.

[36] Blake-Turner and Russell, "Logical pluralism without the normativity," 15.

[37] Blake-Turner and Russell, "Logical pluralism without the normativity," 18.

[38] Presented in Harman, "Logic and Reasoning" and Harman, *Change in view: Principles of reasoning*.

[39] Hartry Field, "Pluralism in logic," *The Review of Symbolic Logic* 2, 2, (2009): 342–359.

suitable for achieving the desired epistemic goal, but there is no such thing as the one true logic.[40]

In Field's logical pluralism, logic is still normative. Field differentiates between truth as the main goal of logic and other epistemic norms. This difference stems from the fact that a valid argument is truth-preserving, transferring the feature of truth from the premises to the conclusion, whereas other epistemic norms are *more* than merely truth-preserving.[41] As a result, it can be claimed that the fundamental difference between telic pluralism and Field's logical pluralism is that, contrary to Field'slogical pluralism, telic pluralism is not normative.[42]

Blake-Turner and Russell claim that by accepting telic pluralism, Priest's collapse problem is evaded. Suppose L1 satisfies the epistemic goal N1, and L2 satisfies epistemic goal N2. Now if $A \vdash B$ is valid in L1 but invalid in L2, if the agent's epistemic goal is N1, she should accept the results of the valid argument in L1; but if the epistemic goal is N2, there is no obligation for her to accept the results of the valid argument in L1.[43] So, Priest's version of the collapse argument does not work anymore.

4. What Is a Philosophically Significant Logical Pluralism?

We saw above that Caret and Blake-Turner and Russell both try to prevent the collapse problem. In the next section we argue that there is a refined version of the collapse argument that still threatens both Caret's and Blake-Turner and Russell's view. But first let's take a look at the question of under which conditions a logical

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[40] Field, "Pluralism in logic," 355.

[41] Field, "Pluralism in logic," 356.

[42] In Gillian Russell, "Logic Isn't Normative," *Inquiry: An Interdisciplinary Journal of Philosophy* (2017), https://doi.org/10.1080/0020174X.2017.1372305, Russell independently examines the idea of logical normativity. By claiming that logic studies the structures in which truth is preserved, she concludes that the rules of logic are descriptive rules of truth, not the rules of how to argue (Russell, "Logic Isn't Normative," 15). It is not clear for us how accepting this view can be consistent with accepting telic pluralism. If truth is used in the definition of logic, then it can no longer be placed next to other epistemic norms because these norms are separate from logical systems themselves. Apart from this, if by *logic* Blake-Turner and Russell mean a mathematical system that has some properties, e.g., soundness and completeness, then logic will certainly not be normative. In a mere formal system there is no normativity, and there are no rules that require us to accept the logical results of such a system. But the problem is that in this case, logical pluralism is no longer an interesting philosophical viewpoint. We discuss this in §5.

[43] Blake-Turner and Russell, "Logical pluralism without the normativity," 16.

pluralism counts as an interesting philosophical viewpoint and check whether their views satisfy these conditions or not.[44]

In general, pluralism about a specific subject such as truth, logic, ethics, religion, etc., is a viewpoint according to which there are several different accounts of the subject, all of which are equally appropriate or all correct.[45] Admittedly, the acceptance of these accounts must result, at least in some cases, in different outcomes, because otherwise the differences between them will be merely apparent. However, for a version of pluralism to be philosophically significant, the simple existence of these different results is not enough. Now, the question is under which conditions we can take a version of logical pluralism to be an interesting one? Some philosophers have recently addressed this question and we do not want to discuss this in detail here.[46] In our view, to appreciate the philosophical value of any given form of pluralism, we must first take into account the position that one would be committed to by rejecting that kind of pluralism. If the position that we are committed to is trivially wrong, it means that the version of pluralism has nothing much to say, and is not a philosophically significant view. We use this as a necessary condition for any philosophically interesting logical pluralism to identify which kind of pluralism could be considered to be an interesting one. For example, consider mathematical logical pluralism (MLP) according to which there is more than one different formal logical system.[47] By rejecting MLP, one is committed to the view that there is only one formal logical system. But it is obvious that no one has endorsed such a wrong position. So, although MLP logical pluralism is trivially correct, it is not philosophically interesting. It is also noteworthy that, as Eklund has put it, pluralism will be a philosophically significant view only when, according to it, in order to serve a *single purpose*, there are different accounts all of which are equally appropriate or

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[44] Notice that there are many ways to be interesting. One could state that the interestingness of Caret's view is just that he takes validity to be an indexical notion. And telic pluralism is also interesting because it suggests a new approach to the question of the normativity of logic. But here by the *interestingness* of these views we mean their philosophical significance as rivals to logical monism.

[45] Shapiro, "Varieties of Pluralism and Relativism for Logic," 529.

[46] See, e.g., Matti Eklund, "Making Sense of Logical Pluralism," *Inquiry: An Interdisciplinary Journal of Philosophy* (2017), https://doi.org/10.1080/0020174X.2017.1321499, Kellen, "The Normative Problem for Logical Pluralism," Colin R. Caret, "Why Logical Pluralism?" *Synthese*, (2019), https://doi.org/10.1007/s11229-019-02132-w, and Steinberger, "Logical Pluralism and Logical Normativity."

[47] Kellen, "The Normative Problem for Logical Pluralism," 3.

correct in the sense that all of them are able to serve *that purpose*.[48] By rejecting such a pluralism, one is committed to the view that there is only one way to serve a specific purpose. It is obvious that if it is important for us to attain that specific purpose, such a view is really significant. For example, as we have seen above, according to Beall and Restall's pluralism the three different logical systems—classical, relevant, and intuitionistic—are all correct, in the sense that they all provide valid arguments that preserve *truth* from premises to conclusion. The rejection of the view is not a trivially wrong position, and it also claims that to serve a specific purpose, i.e., preserving truth, there are different correct logical systems. So, Beall and Restall's pluralism has great philosophical importance.[49]

Now the question is whether Caret's logical contextualism, and Blake-Turner and Russell's telic pluralism, are interesting in the sense mentioned above. For Caret, validity is an indexical concept. As he explicitly states, in any context, the content of 'valid' is generated by instantiating the GTT on the deductive standard of that context.[50] Consequently, because of the fact that there is more than one distinct context, there is also more than one correct logic. But, since a correct logic should evaluate the argument claims, and by doing so it distinguishes between the valid and invalid arguments, the content of 'correct logic' is partially determined by the context in which it is used. So, by accepting Caret's logical contextualism, it follows that different logics are correct *in different meanings*.[51] In this case, the purpose of using a logical system L_1 is to assess the property *valid₁*,

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[48] Eklund mentions this kind of pluralism as "goodness pluralism." He also agrees that only this kind of pluralism is a potentially interesting pluralism (Eklund, "Making Sense of Logical Pluralism," 5-6).

[49] However, some philosophers claim that it can be seen that Beall and Restall's pluralism implies the acceptance of a kind of logical relativism, and the meaning of validity in each logical system is different from the others (see, e.g., Roy, T. Cook, "Let a Thousand Flowers Bloom: A Tour of Logical Pluralism," *Philosophy Compass* 5, 6 (2010): 492-504, Owen Griffiths, "Problems for Logical Pluralism," *History and Philosophy of Logic* 34, 2 (2013): 170-182, and Ole Thomassen Hjortland, "Logical Pluralism, Meaning-Variance, and Verbal Disputes," *Australasian Journal of Philosophy* 91, 2 (2013): 355-373. We do not discuss this here.

[50] Caret, "The Collapse of Logical Pluralism has been Greatly Exaggerated," 753.

[51] One might propose that although 'validity' is a kind of indexical concept, a correct logic is a logical system that, in the context in which it is used, makes an acceptable assessment of the arguments in that context. So, the concept of 'correct logic' is not indexical. But we think the concept of 'correct logic' will still be an indexical one in this sense. Consider a logical system L_1 that evaluates the arguments acceptably in the context C_1 but not in the context C_2. Now, is L_1 a correct logic or not? It's obvious that it is not both correct and incorrect simultaneously, but in fact L_1 is correct-in-C_1 and not correct-in-C_2. So, the cited concept of a 'correct logic' is still an indexical one.

but the purpose of using L$_2$ is to assess the property *valid$_2$*. So, there is no specific purpose in using these different logical systems. On the other hand, by rejecting Caret's logical contextualism, one is committed to the view that there is only one logical system that is correct in the same meaning in different contexts. But it is obvious that there cannot be a correct logical system for all *possible* contexts. Such a view is wrong because we can at least consistently define a new (e.g., mathematical) structure with different logical rules. Consequently, if we understand Caret's position in this way, logical contextualism is not a philosophically significant position. For Caret's logical contextualism to be a significant philosophical view, there should be a single purpose for using different logical systems. But what might this purpose be? Before answering this question, let's look at Blake-Turner and Russell's position.

According to telic pluralism, each logical system is essentially specific to a certain epistemic goal. As we have seen above, in this case, when it is stated that classical logic is a correct logical system, the intended meaning is that it is a correct way to preserve truth, while when it is said that relevant logic is correct, the intended meaning is that it is a correct way to preserve relevant truth. And the correctness of intuitionistic logic should be measured by how provable truths can be preserved by that logic. It should be kept in mind that from the mere fact that there exist different logical systems, it does not follow that these systems are correct *in the same sense*—because the correctness of various logical systems arises when their applications are considered in a specific domain.[52] So, by accepting telic pluralism, we face three different meanings of the correctness of a logical system. They are correct for achieving the related purpose and not for serving a *single* purpose. On the other hand, by rejecting such a view, one is committed to the view that for three different epistemic goals, there is just one logical system. But such a view is clearly wrong, since, for example, classical logic is not suitable for preserving relevant truth as an epistemic goal. As a result, if the telic pluralists' claim is that to achieve three distinct goals, there are three correct logical systems that are apt to achieve those goals, their logical pluralism, as described above, will not be an interesting one. Of course, they may reply as follows: It is true that, by accepting telic pluralism, different logical systems are correct for different purposes, but there is something *in common* between all the different purposesin usingthese systems, perhaps something like a specific purpose. But now the question is what this common property might be.

We saw above that for both Caret's logical contextualism and Blake-Turner and Russell's telic pluralism to be a worthwhile philosophical logical pluralism,

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[52] Priest, *Doubt Truth to be a Liar*, 195.

there ought to be a specific purpose that is common to all logical systems so that using a logical system can accomplish that goal. Such a common feature among all correct logical systems can be called the 'canonical purpose' of logic.[53] In both the logical pluralisms mentioned above, there thus ought to be a canonical purpose that different logical systems aim at in different contexts, or with different epistemic goals. As a suggestion, we propose that the canonical purpose for using logical systems is to acquire rational beliefs. By a *rational belief*, we mean a belief based on good evidences that make it more likely to be true.[54] Logic is concerned with truth-preservation, and using a correct logical system increases the likelihood of the results being true, based on the assumption that the premises are true. So, by using logically valid arguments, one thus tries to acquire rational beliefs. In other words, our suggestion is that the canonical purpose for using a logical system is to increase the rationality of our beliefs. One way to obtain rational beliefs is to use valid inferences, no matter in which logical system it might be. If we accept this, it will be reasonable to accept the results of valid arguments (when there is no counter-argument against the results). Note that we could not treat gaining rational belief as being on a par with other epistemic goals and then design a logical system to achieve it. The rationality of beliefs is more general than all other epistemic goals, and by achieving each of these epistemic goals, i.e., preserving truth, relevant truth, and provable truth, the rationality of belief has also been realized. But the problem now is that although this renders Caret's logical contextualism and Blake-Turner and Russell's telic pluralism philosophically significant, accepting such a suggestion will cause the collapse argument to arise again.

5. The Collapse Problem Again

As we have seen, Caret and Blake-Turner and Russell claim that their versions of logical pluralism do not face the collapse problem. In this section, we try to show that if we accept gaining rational belief to be the canonical purpose of logic, a refined version of the collapse argument will still threaten both Caret's logical contextualism, and Blake-Turner and Russell's telic pluralism. Our argument is based on the idea that using logic is an acceptable way to achieve rational beliefs.

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[53] See, e.g., Eklund, "Making Sense of Logical Pluralism," 5.

[54] One might consider a strict standard for the rationality of beliefs and the way she define the concept of a good evidence. In the present article, we refrain from further exploring this issue. However, it seems that apart from how to define the concept, logically valid arguments are good evidences for beliefs. Notice that acquiring rational beliefs is more general than any other purpose for using logical systems, and so any explanation of it can be used in the argument in §5.

We state the refined argument as follows: Caret's logical contextualism and Blake-Turner and Russell's telic pluralism face a dilemma: either they are not philosophically interesting, or they face the collapse problem again. Consider that by accepting the above suggestion in §4, for Caret's logical contextualism, although there are different deductive standards in every separate context, in all contexts the general purpose of using logic is to gain rational beliefs. Also, by accepting telic pluralism, although there are different logical systems for different epistemic goals, using each one of the logical systems aims at gaining rational beliefs. In our view, acquiring rational beliefs really has a normative force.[55] Notice that we do not mean that merely having a good reason that increases the possibility of a proposition being true forces us to accept that proposition. This is clearly wrong, since perhaps the agent will have no attitude toward the proposition and in this situation she could reasonably suspend belief in it. However, if we are in a position to decide between accepting and not accepting (i.e., withholding or rejecting) a proposition, we should accept the proposition we have good reasons for.[56] So, we use the following principle:

> **RATIONALITY:** if the agent S knows that there is a good reason in favor of P, and there is no argument in favor of ~P, then between accepting and not-accepting (withholding or rejecting) P, S ought to accept that P.

Now, using the structure of Priest's collapse argument and the principle RATIONALITY, it can be argued that, in the case where $A \vdash B$ is valid in L1 but $A \nvdash B$ in L2, regardless of the agent's epistemic goal or the context of the argument, if she is aware of these arguments and wants to decide to whether or not to accept B, she should accept B. The reason for this is that the canonical purpose for using logical systems is, as suggested above, gaining rational beliefs, and validity in L1 increases the likelihood that B will be true. So, in this situation accepting B satisfies the canonical purpose for using logical systems. Hence, if $A \vdash B$ is valid in

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[55] In this article, we take it for granted that rationality is normative in the sense expressed in RATIONALITY; but there is an extensive literature on the normativity of rationality. Some philosophers (e.g., Kolodny (in Niko Kolodny, "Why Be Rational?" *Mind* 114, 455 (2005): 509-63, https://doi.org/10.1093/mind/fzi509) and Broome (in John Broome, "Is Rationality Normative?" *Disputatio* 2, 24 (2008): 153-170) have claimed that rationality is not normative. Others (e.g., Southwood (in Nicholas Southwood, "Vindicating the Normativity of Rationality," *Ethics* 119, 1 (2008): 9-30), Kiesewetter (in Benjamin Kiesewetter, *The Normativity of Rationality* (Oxford: Oxford University Press, 2017)), and Bondy (in Patrick Bondy, *Epistemic Rationality and Epistemic Normativity*, (New York: Routledge, 2018)) disagree and try to show how we can truly claim that rationality is normative. We do not discuss this here.

[56] For simplicity we do not consider the situation in which we have good reasons both for and against a proposition. However, such a situation will not occur in Beall and Restall's Pluralism.

classical logic and invalid in relevant or intuitionistic logic, regardless of the agent's epistemic goal or the context of the argument, if the agent is faced with a choice between accepting or not accepting B, she should accept B. In this situation, the likelihood of achieving the truth by accepting B is more than that of not accepting B. So, again the collapse problem arises.

Consequently, by using the structure of Priest's collapse arguments, along with the suggestion that the canonical purpose of logic is to obtain rational beliefs, there is a new version of the collapse argument that, due to the normativity of rationality, refutes logical pluralism. So it seems that if we count Caret's logical contextualism, and Blake-Turner and Russell's telic pluralism, as philosophically significant views in the sense mentioned above, we face the collapse problem again.

6. Conclusion

Caret's logical contextualism and Blake-Turner and Russell's telic pluralism aimed to evade the threat of collapse arguments. In this paper we sought to evaluate their success. If our arguments hold, by setting out the conditions under which logical pluralism would be philosophically interesting, we concluded that there had to be something in common between all correct logical systems, since otherwise logical pluralism would not be a philosophically significant view. Using the concept of the rationality of belief as the canonical purpose of logic, by presenting a version of Priest's argument, we tried to show that both Caret's logical contextualism and Blake-Turner and Russell's telic pluralism face a dilemma: either they are not philosophically significant, or a refined version of collapse argument still threatens both of these logical pluralisms.[57]