

Logic in Context: An essay on the contextual foundations of logical pluralism

by

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AUTHOR'S DECLARATION

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

Abstract

The core pluralist thesis about logic, broadly construed, is the claim that two or more logics are correct. In this thesis I discuss a uniquely interesting variant of logical pluralism that I call logical contextualism. Roughly, the logical contextualists' thought is that, for fixed values p and q , the statement " p entails q " and its cognates such as " q is a logical consequence of p " or "the argument from p to q is logically valid," are true in some contexts and false in others.

After developing a contextualist account of logical pluralism I proceed to examine implications that, if true, logical contextualism would have on discussions about reasonable disagreement among epistemic peers and on discussions about the aim and purpose of argumentation. I show that logical contextualism allows for the possibility of logically-based reasonable disagreements among epistemic peers. In the face of such disagreements there is no obligation to revise one's belief, nor is there any obligation to degrade the peer status of the agent with whom one stands in disagreement. The possibility of logically-based reasonable disagreements, it will be argued, suggests a reconceptualization of the aims and purpose of argumentation. Most accounts of the purpose of argumentation hold that argumentation's primary purpose is to achieve rational agreement on a contested issue. Such an agreement is thought to require that at least one of the parties in the argumentation change their beliefs or commitments. However, the existence of logically-based reasonable disagreements, I argue, implies that there are some argumentations that ought not to resolve with agreement. Therefore, rather than understanding argumentation as purely an effort to convince an opponent, or as a means to reach consensus, I claim that argumentation ought to

be understood as an effort to gain a better understanding of divergent and perhaps irreconcilable perspectives.

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Dedication

To my mother Louise Simard and my father Linton Smith
For their unflinching support

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Introduction

There exists a plurality of pluralisms to contend with in contemporary philosophy; there are ethical¹ and political pluralisms,² scientific³ and mathematical pluralisms,⁴ and there are pluralisms about truth⁵ and epistemic methodologies.⁶ However, perhaps one of the most surprising subject matters in which pluralist views have been put forward is logic.⁷ Logic, after all, is thought to capture what Frege famously called the “laws of thought.” Frege’s idea is that logic is supposed to represent the general forms of reasoning that are correct in all domains whether it be optics, geological survey, law, or ordinary conversation.

However, over the last century several different systems of logic have been formulated and various technical proofs about these systems, and about their interrelationships with each other, have been provided. Therefore, pluralism about logic may strike some who are familiar with the current state of affairs in logic as utterly trivial. After all, such a person may contend, we could stipulate different sets of axioms and different rules of inference and *voila* we would have just formulated different logics.

The mere existence of different formal systems of logic, however, is not in itself sufficient to establish a very robust pluralism about logic. At least the mere existence of such systems of logic is not enough to establish a pluralism that is sufficiently interesting to warrant intensive philosophical scrutiny and reflection.

¹ Wolf, Susan (1992)

² Isaiah Berlin (2000a, 2000b)

³ Kellert, Stephen; Logino, Helen; Waters, Kenneth (2006)

⁴ Hellman and Bell (2006)

⁵ Pedersen, Nikolaj and Wright, Cory D. (2013)

⁶ Field, Hartry (2009). Also see Goldman, Alvin (2010)

⁷ Several examples of logical pluralism will be discussed extensively in Chapter One.

In any of the subject matters in which pluralist approaches have been floated it is possible to draw a distinction between weak and strong pluralisms. On the one hand, a weak pluralism is one where divergent accounts of the subject matter in question exist. On the other hand, a strong pluralism is the idea that different accounts of the subject matter are correct. For instance, it is possible to hold that different political philosophies exist and this would be a pluralist view of sorts. However, it is a much stronger position to hold that different political philosophies are correct. In this thesis you will find a discussion of strong pluralist views about logic. I investigate current versions of strong-pluralism about logic, formulate my own strong-pluralist views about logic, and tease out some implications of my view for the philosophy of language, the epistemology of disagreement and argumentation theory.⁸

In Chapter One I examine the virtues and vices of different versions of logical pluralism that have put on offer in contemporary discussions in the philosophy of logic. I discuss six different pluralist views about logic; a version of pluralism that Hartry Field finds in Carnap's *Logical Syntax of Language*, Beall-Restall pluralism, Field's own version of pluralism, DeVidi-pluralism, logic-as-model pluralism, and contextual pluralism. My examination of these different versions of logical pluralism will produce a set of desiderata that a sufficiently interesting pluralism ought to possess. The desiderata are based on an evaluation of what is virtuous about and what is deficient in the different versions of pluralism examined. As will be seen, all the extant versions of logical pluralism save one fail

⁸ I simply call strong-pluralism about logic *pluralism about logic*, *logical pluralism* or even sometimes just *pluralism* from here on out. But it will be important to mark this distinction between broadly different sorts of pluralist views.

to satisfy the desiderata of a sufficiently interesting version of logical pluralism. Logical contextualism will be shown, at least *prima facie*, to satisfy the desiderata and, thus, warrant further investigation. The main issue with logical contextualism is that the sum total of current literature on it consists in one cryptic paragraph in Stewart Shapiro's (2011) *Varieties of Pluralism and Relativism about Logic*.⁹

The first chapter will not only serve to isolate desiderata of a sufficiently interesting version of logical pluralism it will also provide a much needed survey of the state of the art of the literature on logical pluralism. As of yet there has been no comprehensive comparative assessment of the different versions of pluralism on offer. Chapter One will fill this gap by providing a necessary bookkeeping task for philosophers and logicians interested in logical pluralism.

In Chapter Two I further expand the logical contextualist approach by developing an account of what it means for a logic to be correct. I argue for an account of correctness of a logic which makes logics correct relative to contexts of inference. Roughly, the view is that logical consequence varies with a contextual parameter; the claim that " p entails q " and its cognates such as " q is a logical consequence of p " or "the argument from p to q is logically valid," are true in some contexts and false in others (i.e., this is so for fixed values of p and q). I support this account of correctness of a logic is by considering a series of plausible accounts of what it might mean to say that a logic is correct. I raise examples of logically valid inference that challenge several of these plausible accounts of correctness of a logic. I

⁹ At least that is the sum total of the literature on it that I have been able to track down.

contend that the contextualist account of correctness of a logic is the best one to adopt in light of these examples.

In process of arguing for a particular account of logical correctness I develop a model of the inferential behaviour of the concept of good art. The concept of good art is an example of what I call a *schematic concept with logically significant contextual saturations* (SCLSCS). A schematic concept is a concept which has an element that can be saturated differently in different contexts. In the case of the concept of good art different audiences can be relevant to the determination of whether some work of art is good art. Saying of a painting that it is good art, is saying that it is good relative to some standards adopted by an appropriate audience.¹⁰ The particular audience that is relevant is, I contend, is determined contextually. Moreover, different saturations of the concept of good art, I show, can be logically significant. Two different saturations are logically significant when they render different inferences logically valid in different contexts.

However, if logical contextualism only applied to the concept of good art and other taste-based concepts, the view would have a fairly narrow scope. Therefore, in Chapter Three I consider several other examples of SCLSCSs to which the model explained in Chapter Two can be applied. First, I consider judgment or response-dependent concepts. Response dependent concepts are concepts that are constructed by the responses of human agents. There are plausibly a plethora of such concepts from tallness to smallness, and smoothness to hardness. However, recently there have been several accounts in metaethics that understand

¹⁰ While I find this audience centric understanding of the concept of good art plausible enough I am not committed to the correctness of this understanding of the concept. The usefulness of this understanding of good art as an illustrative example will not depend on its correctness. This is not intended to be a thesis in the philosophy of art.

moral and ethical properties to be response-dependent. Consequently as an example of how the model developed in Chapter Two can be applied to response dependent concepts I show how it can be applied to the concept of moral acceptability understood as a response-dependent concept. Certainly regarding the concept of moral acceptability as response-dependent is controversial. However, the general formula used to illustrate how the model applies to the concept of moral acceptability could be extended to any of the more clearly judgment-dependent concepts. I also consider how to apply the model developed in Chapter Two to the concept of the epistemic modal ‘probably,’ the mathematical concept of a function, and the practical reasoning concept of ‘the-thing-to-do.’

In Chapter Four I explore some implications that logical contextualism has for current discussions in epistemology about reasonable disagreement among peers. I begin with a survey of some current views on peer-disagreement. I follow up this discussion by providing a novel account of how reasonable peer disagreement can arise. I argue that some reasonable disagreements can be logically based. If two agents are operating in the same situation but in different contexts that render different inferences logically valid, then conclusions can follow logically for one of the agents that do not follow for the other. Thus, a reasonable disagreement can arise between these two agents. In Chapter Four I also reply to some possible objections to my account of logically based reasonable peer disagreements.

In Chapter Five I look at further implications of logical contextualism. In particular I examine an implication that logical contextualism has for how we ought to understand the aim and purpose of argumentation. Several of the most influential theories of argumentation understand rational consensus in some form or other to be the primary purpose or end of

argumentation. I survey these views in order to illustrate how this understanding of the purpose of argumentation functions as something of a paradigm in argumentation theory. However, I explain how logically based reasonable disagreements can factor into an argumentation in such a fashion that rational consensus is not possible. Rather than understanding the purpose of argumentation as rational consensus I argue that we should reconceptualise the purpose of argumentation as a collaborative exploration of—to use a Sellarsian turn of phrase—the “space of reasons” that surrounds a disputed issue. This reconceptualization of the purpose of argumentation can account for argumentations in which disagreement remains after the successful resolution of the argumentation as well as argumentations that successfully resolve with a rational consensus. Therefore, the reconceptualization of argumentation I advocate offers an account of the purpose of argumentation that has a broader scope than the standard view in argumentation theory. I also argue that so reconceptualising the purpose of argumentation can provide a practical response to addressing the “Adversary Paradigm” that Janice Moulton contends contemporary philosophy is ensnared by. Thinking of arguments as collaborative explorations of the various reasonable perspectives that can be taken on a disputed topic weakens the grips of the argument-as-war metaphor which Trudy Govier (1999) has argued facilitates slips from non-harmful forms of adversariality to more aggressive and harmful versions of adversariality. By weakening the hold that this metaphor has on the way we think about and act in argumentations we can serve to weaken the adversarial paradigm that can distort philosophical inquiry.

Finally having drawn out the different implications of logical contextualism I will be in a position to conclude by briefly explaining why logical contextualism is an interesting version of logical pluralism. I accomplish this task by illustrating how logical contextualism satisfies the desiderata of a sufficiently interesting pluralism described in Chapter One.

Chapter 1

Varieties of Pluralism About Logic

1.1 Introduction

Is there more than one correct logic? *Logical pluralists* think the answer is “yes.” *Logical monists* think the answer is “no.” The debate between pluralists and monists about logic is of ongoing concern in philosophical discussions about the foundations of logic. In spite of this continuing controversy there has yet to be a comprehensive comparison of the different versions of logical pluralism currently on offer. The purpose of the present chapter is twofold. First it is to remedy the absence of comparative analyses by discussing, in one place, the most important recent accounts of logical pluralism. I hope this discussion will provide a sort of book-keeping service to those interested in logical pluralism. Understanding the various versions of logical pluralism on offer, and having some framework for how they fit together, will help philosophers and logicians interested in logical pluralism form a clearer idea of the conceptual terrain as it currently stands.

The second purpose has two parts: (i) formulate a set of desiderata that an account of logical pluralism ought to satisfy in order to be interesting and warrant philosophical scrutiny, and (ii) evaluate the extent to which any of the versions of logical pluralism on offer satisfy those desiderata. Several of the accounts I consider come close to satisfying the desiderata, but ultimately none of the versions of logical pluralism on offer clearly satisfy all of them. One of the versions of logical pluralism that I find particularly promising has drawn minimal attention in the literature. I call this version of logical pluralism *logical*

contextualism. As it stands in the current state of scholarship it is highly unclear whether logical contextualism can satisfy the desiderata of a sufficiently interesting logical pluralism. However, logical contextualism has been significantly underdeveloped in comparison to other accounts of logical pluralism currently on offer. In the present chapter, in addition to examining the more developed accounts of logical pluralism, I outline, in a broad sense, what logical contextualism is and what *prima facie* case there is for regarding it to be both a promising and an interesting variety of logical pluralism. The full case for logical contextualism will have to wait for Chapter One and Chapter Two, but in this chapter I will set the stage for subsequent developments of logical contextualism.

The plan for this chapter will be as follows. First, I discuss some virtues and deficiencies that have been pointed out with the most well-known accounts of logical pluralism. I use these discussions to identify desiderata of an interesting account of logical pluralism. Presumably we want a pluralism that would possess the virtues that have been identified with existing accounts of pluralism and avoid the deficiencies. I then discuss several other accounts of logical pluralism that were intended to address the virtues and deficiencies noted earlier. In turn I examine how well these accounts of pluralism satisfy all the desiderata we have extracted. As will be seen, while no account clearly satisfies all of the desiderata one of the more underdeveloped accounts—logical contextualism—shows particular promise for being an interesting version of logical pluralism.

1.2 Carnap and the Principle of Tolerance

One of the first, and probably the most widely discussed, justification for logical pluralism can be found with Rudolf Carnap's *principle of tolerance*. Not only does Carnap's logical pluralism take historical precedence, several contemporary authors that develop original accounts of pluralism react to flaws they take to be found in Carnapian pluralism.¹¹ Carnap's pluralism, thus, is important in the current dialectic surrounding logical pluralism.

However, one point worth noting straight away is that it is not clear that the account of Carnapian pluralism that often finds its way into contemporary discussions of logical pluralism is in fact a view that Carnap himself ever endorsed. While it is widely agreed that there is something awry with the Carnapian principle of tolerance, interpretations of the exact scope and nature of Carnap's principle of tolerance—and what adoption of such a principle licenses—is a fraught matter. Therefore, I do not claim that the account of Carnap's logical pluralism to follow is the correct account of Carnap's pluralism. However, it is an account of Carnap that is widely employed and reacted to in current pluralist literature. In order to have a handy term to discuss this interpretation of Carnapian pluralism I will call it Field's Carnapian pluralism since Field offers the most explicit version of this interpretation of Carnap that I am familiar with.

Some of Carnap's most well-known expressions of the principle of tolerance are the following,

In logic, there are no morals. Everyone is at liberty to build his own logic, i.e., his own form of language, as he wishes. All that is required

¹¹ See for example Restall (2002), Varzi (2002), Beall and Restall (2006) Field (2009), Cook (2010) and Russell (2013).

of him is that, if he wishes to discuss it, he must state his methods clearly, and give syntactical rules instead of philosophical arguments. (Carnap 1971 p. 52)

And,

. . . let any postulates and rules of inference be chosen arbitrarily; then this choice, whatever it may be, will determine what meaning is to be assigned to the fundamental logical symbols. By this method, also, the conflict between the divergent points of view on the problem of the foundations of mathematics disappears. . . . The standpoint we have suggested—we will call it the *Principle of Tolerance* . . . —relates not only to mathematics, but to all questions of logic. (Carnap 1971 p. xv)

One point that Field (2009) thinks could motivate the principle of tolerance is that the meaning of the logical connectives varies from logic to logic. On this view the meaning of ‘not’ in classical logic, for example, differs from its meaning in intuitionistic logic. Disputes over various controversial inferences between advocates of these different logics are, thus, merely verbal. From the standpoint of the classical logician it is a straightforward matter, given their preferred postulates and rules of inference, that the law of excluded middle is valid. From the standpoint of the intuitionistic logician it will be similarly straightforward, given their postulates and rules, that excluded middle is not generally valid. If it were possible to take a picture of this dispute over the principle of excluded middle, this picture—at least if this version of Carnap is right—could find its way into a dictionary of expressions just to the right of the phrase “talking past each other.” If the meanings of the logical constants vary from one logic to the next, it may appear that there is no real shared basis for a principled disagreement. In Carnap’s mind a better approach than disputation over controversial logical principles is tolerance of divergent logics. For example, rather than

challenge the principle of excluded middle the intuitionist ought to say “given classical postulates and rules excluded middle is straightforwardly valid, but it is not straightforwardly valid given the postulates and rules I prefer.”

However, it's not clear that this case for tolerance gets off the ground unless it is already assumed that we ought to be tolerant of different logics with different meanings. Even if a difference of opinion over some logical principle was partially a result of the participants in the dispute adopting different meanings for the logical constants, it does not imply that the dispute should dissolve. Rather the dispute should zero in on the problem of what is the correct meaning for the connectives in the first place.

An additional concern facing this version of pluralism is that each logic's constants can be regarded, it may be argued, as instances of different, more general, constant types. For instance, the different ' \neg ' constants used in different logics all have a common core that defines them as types of negation, or the different ' \rightarrow ' constants all have a common meaning that makes them as *conditionals*. This fact might be thought to pressure such a view toward a monistic conception of logic. If the constants share a common meaning, then really oughtn't we to think there is just one logic? The significance of this problem for Field's understanding of Carnapian pluralism is unclear. The different logics in Field's Carnap may all include conceptions of negation but be distinct logics nevertheless. If the set of inferences that result from different negations are different, then there is still a plausible case to make that the logics are distinct even if there is a core meaning shared by the different logical constants. Presumably it would also be possible to come up with logics, on Field's Carnap, with constants that do not share a core meaning with familiar constants such as negation,

conjunction, conditional, and so forth. An example of such an operator might be Arthur Prior's infamous *tonk* constant which has the introduction-rules of classical disjunction and the elimination-rules of classical-conjunction (Prior 1960).

In spite of such difficulties Hartry Field (2009) finds this sort of Carnapian brand of logical pluralism to be "quite exciting" (Field 2009 p. 345). Before leaving Field's Carnap it will be worthwhile taking a moment to note exactly what Field finds exciting about this conception of Carnapian pluralism. According to Field's Carnap, in debates between non-classical and classical logicians "one needs to focus on non-standard logicians who take their preferred logic as an *all-purpose logic*. . . . [Carnapian Pluralism] is [the view] that there is no genuine conflict between different advocates of *all-purpose logics*" (Field 2009 p. 344). Field is drawing attention here to logical disagreements about the correct general purpose logic; that is logics that are correct in general although might allow for special circumstances in which some other logic can be legitimately used. The reason for emphasizing differences over the all-purpose logics is that, according to Field, "it is obvious that there are uses of classical logic that constructive logicians can engage in" and vice versa (Field 2009 p. 344). So according to the Field the issue for Carnapian pluralism is not whether a classical logician can ever legitimately restrict themselves to intuitionistic techniques (or whether an intuitionistic logician can ever legitimately employ classical inference schemes such as excluded middle). Rather Field says it is obvious enough that are such special cases. The issue of interest in Field's account of Carnapian pluralism is whether there is genuine conflict between logicians who adopt different all-purpose logics. What Field finds exciting about this version of pluralism is that, if true, it would mean that logicians who use different all-

purpose logics would not be in genuine disagreement with each other. They ought to be tolerant of each other's different logics since it is open for reasoners to select whatever axioms and rules of inference best serve their purposes.

One natural desideratum suggested by Field's discussion of Carnap would be that a sufficiently interesting pluralism ought to dissolve any disagreement between all-purpose logics. However, it is worth noting that an interesting version of logical pluralism need not *dissolve* differences of opinion. Rather, what would be at least as interesting is a pluralism in which the differences of opinion were *explained*. That is to say, if the rational basis for the differences of opinion about the correct logic were presented in such a way that it became clear how all the participants in the dispute are justified in holding their respective, yet opposed, views.

What about the importance Field's Carnap puts on the disagreements being over all-purpose logics? I think it is too strong to claim that an interesting pluralism must be a pluralism of all-purpose logics. A logician may be considered a fairly robust logical pluralist, presumably, if she held there to be no correct all-purpose logic, but that there are several correct logics each of which is best suited to, suppose, different contexts, or different purposes, or different domains of discourse.

So, what can we learn from this discussion about what characteristics a sufficiently interesting version should possess? One important virtue of a sufficiently interesting pluralism highlighted in Field's discussion of Carnap is that any interesting pluralism should explain how different positions in debates about the correctness of logics are rational. This would illustrate how different views in the history of logic about what inferences are logical

and what aren't are not unreasonable or confused, but are reasonable perspectives on the nature of logical validity. Furthermore, we also should not close the door to a pluralism in which there is no all-purpose logics, but many correct logics each best suited to different purposes. Therefore, I adopt, as a desideratum of a sufficiently interesting version of logical pluralism, that the version of pluralism should have available an explanation as to why different positions on the logical validity of controversial inferences (such as excluded middle or *ex falso quodlibet*) are reasonable. Precisely stated this desideratum holds that any interesting pluralism ought to have available a plausible explanation for how different positions about the logical validity of controversial inferences can be reasonable.

Before proceeding to examine Beall and Restall's version of pluralism note the following two features of this desideratum. First, this desideratum requires that a sufficiently interesting version of logical pluralism explain how some disagreements over the logical validity of some inferences can be reasonable. In other words, the desideratum requires that it be possible for agents who disagree about the validity of some inference to all be reasonable in spite of the different views about the contested inference. Second, this desideratum does not require that disagreement be at the level of all-purpose logics. Given this desideratum it is still possible for agents to apply different logics in different situations and be robust pluralists without adopting any all-purpose logic.

1.3 Beall-Restall Pluralism

Between Carnap's formulation of the principle of tolerance and the turn of the new century most of the developments in the study of non-classical logics have been technical advances in the formulation of various systems of inference and proving various properties about such systems. Often these advances have been important and significant. Our focus here, however, is not on technical developments in extensions to classical logic or on the formulation and machinery of non-classical systems. Rather our interest is in philosophical theories that explain how more than one of these logical systems can be correct. In the years following Carnap's formulation of the principle of tolerance and preceding the turn of the last century I am not aware of any alternative philosophical explanations of how more than one logic could be correct.¹² Thus, in this section, we skip ahead roughly fifty years to the very

¹² Some may regard Michael Dummett's (1991, 1996) views that classical logic is acceptable in subject matters in which every sentence is determinately either true or false and intuitionistic logic is acceptable in subject matters in which some sentences are not determinately true or false as an explanation of how more than one logic could be correct. This very well could be the case. There are two points worth flagging about any potential logical pluralism in Dummett. For Dummett the use of classical logic is justified as an extension of intuitionistic principles. So for Dummett intuitionistic logic could, some may think, be regarded as *the* correct logic. However, reasoners are sometimes justified in using excluded middle and other classical principles when special characteristics of some domains of discourse rationally license the use of classical inference principles as extensions of intuitionistic logic. Second, Dummett does not formulate his view, in so far as I am aware, as a case of at least two logics being correct. Rather, if this is a corollary of Dummett's views, his purposes are much broader than advancing an argument for logical pluralism. Ultimately, however, whether Dummett is committed to a version of logical pluralism is more a matter of Dummett exegesis that is not necessary to delve into for current purposes. Another possible account of how more than one logic can be correct might be thought to have been identified by Tarski (1935) and earlier Bolzano (1837). Here the idea is that there is more than one way to specify the logical form of sentences. That is the identification of certain terms in a sentence as logical and others as non-logical is somewhat arbitrary (although significantly less arbitrary for Tarski than for Bolzano) and can contribute to different accounts of logical truth and different sets of arguments getting classified as valid. By varying the privileged and non-privileged terms we can get different inferences coming out as valid. Tarski ultimately did not adopt such an account of logical pluralism but only flags the possibility of it. Stewart Shapiro (2011) discusses Tarski and Bolzano's views as one possible route to pluralism. Again, however, this has not received a wide discussion in the literature as a justification of pluralism so I will not discuss it further.

beginning of the 21st century where a renaissance of interest in logical pluralism is taking place.

This resurgence of logical pluralism is largely due to a proposal made by J.C. Beall and Greg Restall (2000, 2006). In this section I start by discussing Beall-Restall pluralism. I explain what they take the logical pluralist thesis to be, and what arguments they offer in its support. Second, I discuss several criticisms of Beall-Restall pluralism. Through this discussion of Beall-Restall pluralism I highlight several further desirable characteristics that an interesting version of logical pluralism ought to possess. The satisfaction of these characteristics by an account of logical pluralism contributes to the degree of interest that that account of logical pluralism possesses.

3.1 *The View*

Beall and Restall's proposal begins with a clarification of exactly how they think the logical pluralist's thesis ought to be understood. Beall and Restall state that "the core of [logical] consequence" is captured by what they call the Generalized Tarski Thesis (GTT) (Beall and Restall 2006, p. 35).

(GTT) An argument is *valid_x* iff in every *case_x* in which the premises are true, so is the conclusion. (Beall and Restall 2006 p. 29)

Beall and Restall then state that "logical pluralism is the claim that at least two different *instances* of GTT provide *admissible* precisifications of logical consequence" (Beall and Restall 2006, p. 29 italics added). An instance of GTT is "obtained by a *specification of the*

$cases_x$ in GTT and a specification of the relation *is true in a case*” (Beall and Restall 2006, p. 35). For example, $cases_x$ might be specified as some kind of set-theoretic model and “is true in a case” would then be specified as the conditions that need to be satisfied for statements in the language in question to be true in that model. Not just any specification of GTT will do, however. A specification must be *admissible*. A specification of GTT is admissible when it “satisfies the *settled role* of consequence and its judgments about consequence are *necessary, normative, and formal*” (Beall and Restall 2006, p. 35 italics added).

After Beall and Restall clarify what they take the pluralist thesis to amount to—i.e. the existence of more than one admissible specification of GTT—they go on to argue that there is indeed more than one admissible way of making GTT precise. They argue that classical, intuitionistic and, relevance logics, and perhaps second-order and free logics are admissible specifications of GTT since they all satisfy the necessity, normativity, and formality criteria. On these grounds Beall and Restall conclude that logical pluralism is true.

1.3.1 Criticisms of the View

There have been a variety of critical reactions to Beall and Restall’s proposal. Some of them—those typically emerging from the logical monist camp—are just as much general critiques of any version of logical pluralism as they are specific criticisms of Beall and Restall’s version of logical pluralism. Other critical reactions challenge Beall and Restall’s specific conception of the pluralist thesis and aim to propose a more satisfactory alternative.

1.3.2 The Priest-Read Challenge

Among criticisms of the first sort, one of particular note is a criticism developed by Graham Priest and explained by Stephen Read (2006). Read reports Priest as considering the following scenario; imagine two different accounts of logical consequence K_1 and K_2 , in K_1 α logically implies β , but in K_2 β is not logically implied by α . Now supposing that we know α is true, how are we to answer the question: “is β true?” Read asks “does the truth of β follow (deductively) from the information presented?” (Read 2006, p. 194) The logic K_1 clearly establishes that we know that β is true and since β cannot be false given that α is true α K_1 -implies β . After all the failure of α to entail β in K_2 does not tell us that β is false. But, then K_1 is more powerful, in the sense that it is able to provide more results than K_2 , and thus, in that respect, K_1 is better than K_2 . Given the inability of K_2 to adequately determine the truth of β , the notion that K_2 is as correct as K_1 is questionable. Why would we want to be pluralists about K_1 and K_2 when K_1 can prove more true claims than K_2 can prove? In an important sense we would say that K_2 must be incomplete. On the basis of this line of reasoning Read claims “it follows that in a very real sense, K_1 and K_2 are not equally good” (Read 2006 p. 195). To make the general point more concrete suppose K_1 is classical logic and K_2 is relevance logic. Read says,

We are given that the inference from α to β is classical valid and not relevantly valid. We are also told that α is true. Does this information tell us whether β is true? Apparently so, for classical validity is validity: “classical logic *is* logic If the premises of a classically valid argument are true, so is the conclusion” (Beall and Restall 2000 p. 490). So β is . . . true *simpliciter*. The fact that β does not follow relevantly from α is irrelevant. Classical logic dominates and β is true. (Read 2006 p. 196)

If the Priest-Read challenge is correct Beall-Restall pluralism is incoherent. While Beall-Restall pluralism advances the claim that there are at least two correct logics, it results in a scenario in which it is hard to see how relevance logic or intuitionistic logic could be as correct as classical logic.

One reply to this objection provided by Beall and Restall is that it is legitimate to infer β from α in accordance with K_1 , but not in accordance with K_2 (Beall and Restall 2001, 2006). However, this is not much of an answer to the Priest-Read challenge. Rather than answering the question it is primarily a restatement of their point.

The Priest-Read criticism, in my view, presents an important challenge to any account of logical pluralism. Whatever pluralist theory about logic is being considered, it is important to evaluate its available answers to the Priest-Read criticism. The adequacy with which an account of pluralism can address this question will go a long way to determining both the plausibility and the interest level of the pluralism. Therefore, another desideratum for an interesting version of pluralism is whether it has the resources to give a satisfactory reply to the Priest-Read challenge.

1.3.3 Pluralist Critiques of Beall-Restall Pluralism

In what follows I will discuss several additional criticisms of Beall-Restall pluralism from the perspective of other logical pluralists. These criticisms are ones that are followed by alternative accounts of pluralism that are not subject to the same flaws these accounts identify with Beall-Restall pluralism. Several of these criticisms are explicitly formulated as challenges to the degree of interest of Beall-Restall pluralism. And, even those challenges that are not formulated as questioning the degree of interest in Beall-Restall pluralism do

identify important components of what makes a pluralism interesting and worth philosophical scrutiny. I thus use these criticisms of Beall-Restall pluralism to identify components that philosophers have argued an interesting account of logical pluralism ought to possess. Possession of these components will result in satisfaction of desiderata that I take to be required of an interesting pluralist account of logic.

As we will see there have been many criticisms raised and multiple alternative versions of pluralism formulated in response to these criticisms. Unfortunately the alternatives have been formulated largely in isolation from each other. In other words, what typically takes place in the literature today is someone identifies faults with Beall-Restall pluralism then formulates an alternative version of pluralism that they argue is not subject to the same faults. Another theorist comes around and identifies different problems with Beall-Restall pluralism and formulates yet another account of pluralism that is free from the problems they identified with Beall-Restall pluralism. However, there has not been much cross-evaluation between the pluralisms that have been formulated. Are these accounts of logical pluralism free from the faults that the other accounts of pluralism identified with Beall-Restall pluralism?

1.3.3.1 DeVidi and Field's Criticisms

Hartry Field (2009) and David DeVidi (2011) have developed arguments that that Beall and Restall's account "produces an uninteresting pluralism, or at least, a pluralism less interesting than might be available" (DeVidi 2011, p. 100). What reason is there to think that Beall-Restall pluralism is not sufficiently interesting? DeVidi motivates this point by

considering an analogy between Beall-Restall pluralism and a hypothetical pluralism between classical first-order predicate logic, its modal and temporal extensions and classical sentential logic. A pluralism, DeVidi points out, between classical predicate and sentential logic is clearly an uninteresting pluralism. Why does DeVidi think this is the case? Predicate logic can express more valid inferences than sentential logic and thus some arguments that are valid in predicate logic are not valid in sentential logic. Frequently, however, it is useful to use sentential logic when the quantificational structure of an inference does not impact the inference's validity or invalidity. The same holds for modal or temporal extensions of sentential and first-order predicate logic. These extensions are important for the evaluation and analysis of certain inferences, but often they unnecessarily complicate matters when the modal or temporal structure of inferences is unimportant to their validity. Sometimes a more straightforward evaluation of an inference is forthcoming if first-order predicate logic or sentential logic is used as opposed to one of the extensions of these logics. If sentential and predicate logic are sufficiently distinct from each other to justify an interesting version of logical pluralism, then the pluralist thesis would not be all that controversial. In fact, if the belief that classical sentential and classical predicate logic are two distinct correct logics is sufficient to support belief in the correctness of logical pluralism, then it is clear that most philosophers and logicians would be pluralists already. An interesting version of logical pluralism, however, seems to involve something more than simply a pluralism between one logical system and its sub-systems. Rather an interesting version of logical pluralism involves the notion that two or more *conflicting* logics are correct.

Of course this claim about what makes for an interesting pluralism raises a question about what it means for two logics to conflict. It will be worthwhile taking a moment to address this issue. I say that two logics conflict if and only if (i) inferences that are valid in one logic are not valid in the other logic and (ii) the conflict is over inferences both logics are capable of expressing. In order for the conflict to be over inferences that both logics can express the logics must operate at the same *level of expressive detail*. By level of expressive detail I am referring to the propositional structures that well-formed formulas of the logic are able to express. Given the above criteria, classical predicate logic and sentential logic are not conflicting logics. There are certainly valid inferences in classical first-order predicate logic that are not valid in classical sentential logic. The conflict between these two logics, however, is not over inferences that both logics can express. Rather the conflict is between inferences that cannot be expressed in sentential logic but can be expressed in predicate logic. First-order predicate logic has the machinery to express quantificational and predicational propositional structures—logical machinery that is absent from classical sentential logic. For instance, predicate logic is able to express predicates and quantifiers while sentential logic is not able to express these structural features of propositions. It is important that, for there to be a conflict between two logics, that the conflicting logics have the same level of expressive detail. If this caveat is not included in our account of conflicting logics, then logics would conflict simply if one of them was able to express more valid inferences than the other, but it is not clear that any conflict exists in these situations, only that one of the logics is more powerful than the other.

Classical sentential logic and, for instance, intuitionistic sentential logic or relevant sentential logic would be conflicting logics. The same goes for classical predicate logic and intuitionistic predicate logic. Intuitionistic and classical predicate logic both have the expressive capacity to represent the proposition expressed by the sentence ‘ $\forall x(Ax \vee \neg Ax)$.’ However, while that proposition is a classical logical truth there are intuitionistic models in which the negation of that proposition is true. Thus, not only are those logics operating at the same level of expressive detail, inferences that are valid in the one logic are not generally valid in the other.

So how is the hypothetical pluralism between classical predicate and sentential logic analogous to Beall-Restall pluralism? Well, if Beall-Restall pluralism results in intuitionistic models being mere subsets of classical models, as opposed to being counterexamples to them, then the resulting pluralism seems quite similar to the hypothetical pluralism between classical predicate and sentential logic (DeVidi 2011 p. 103). In intuitionistic logic there are fewer logically valid inferences, so more arguments are not valid. That is to say, in intuitionistic logic there are more ways that a conclusion α can be false when a set of premises β are true. For instance, in any classical model in which $\neg\neg\alpha$ is true α will also be true. In intuitionistic logic this inference is not valid so there will have to be additional models in intuitionistic logic in which $\neg\neg\alpha$ is true and α is not. Moreover, the example of quantified excluded middle above was selected for a reason, for in most versions of semantics for intuitionistic logic, once we include quantifiers, there are models in which classically valid formulas not only fail to be true, but actually are *false*. Such models are inconsistent with any classical models. In this sense intuitionistic models pose genuine

counterexamples and thus, in a strong sense, conflict with classical models. However, according to Beall-Restall pluralism, the set of intuitionistic models is a subset of the set of classical models and so they don't provide genuine counterexamples to classical models. DeVidi's charge is that Beall-Restall pluralism is not significantly more interesting than a pluralism of classical predicate and classical sentential logic; as far as pluralisms go it is "weak tea" (DeVidi 2011 p. 103).

In what sense does admitting only intuitionistic models that are classical models produce "weak tea" pluralism? DeVidi illustrates the point by discussing two different approaches to the way that mathematicians regard constructive proofs. One approach to constructive mathematics understands mathematical objects to be the sort of thing that can be understood either constructively or classically. Constructive proofs of mathematical propositions provide more information than classical proofs of the same propositions, and thus constructive proofs are desirable. A classical proof of the proposition, however, is sufficient to settle the proposition's truth. On this version of the constructivist approach, it is not possible to prove claims constructively that conflict with claims proven classically. After all, on this approach, the mathematical objects being studied are identical; it is only the tools for examining them that differ. This version of mathematical pluralism is the "weak tea" variety to which DeVidi makes reference. Intuitionistic reasoning is informative, but ultimately not required in order to establish a mathematical proposition's truth. This is, however, just the sort of pluralism that arises between constructive and classical logic on Beall-Restall pluralism.

Such an understanding of the role of constructive proofs in mathematics is not ubiquitous among constructive mathematicians. According to many constructive mathematical systems it is possible to prove claims that can be refuted in classical mathematics. DeVidi (2011) provides some examples. L.E.J Brouwer, for instance, developed a proof for the proposition that “all functions are continuous”—a claim that is false in classical mathematics. Or, to take an example from logic alluded to earlier, it is possible to prove that in some intuitionistically constructed cases $\neg\forall x(Ax \vee \neg Ax)$ is true (DeVidi 2011 p. 103). These sorts of examples of classical principles that are refutable when reasoning constructively (or vice versa) have led many constructivists to think that there is something *wrongheaded* about classical logic; that certain classical principles are false. Call this version of constructivism *strong-constructivism*.

Beall and Restall’s account of pluralism is incompatible with the strong-constructive approach to mathematics since intuitionistic models that constitute genuine counterexamples to classical models are not possible on their view. One reason that Beall and Restall might want to reject such a possibility is that allowing for such counterexamples opens up the possibility that an inference could both be truth-preserving and not truth-preserving. Consider double negation-elimination inferences in which the inference’s premises are all known to be true. Intuitionistically it is possible for the conclusions of these inferences not to be true even when all the premises are true. However, classically, if the premises of such an inference are true, the conclusions must be true. So on one model these inferences are truth-preserving, but on another they are not. This problem might be thought to raise a fairly paradoxical situation that Beall and Restall would want to avoid. However, DeVidi’s charge is that by avoiding it

they are left with pluralism that is not interesting—the sort of claim that most everyone already believed, for it is common even among the most classically-minded mathematicians to acknowledge that constructive proofs are more informative.

A possible solution to this paradoxical, albeit one that DeVidi does not advance, would be to adopt a plural truth predicate. At this point this solution can only be mentioned briefly. This solution involves truth-predicates such that the truth of a conclusion that follows on the basis of a classically valid inference is, in some way, different than the truth of a conclusion that follows from an intuitionistically valid inference. It is worth pointing out at this point that a truth predicate, in the cases which concern us at this moment, can be regarded as nothing more than a predicate marking satisfaction within some formal system. Thus, the conclusion of the contested inferences would be true-in-classical-logic, but its truth would be unclear in intuitionistic logic.¹³ Of course, this solution would carry the burden of defending a notion of truth pluralism in which some truth predicates are relative to logical systems. In Chapter Two I further address that issue.

Whatever the potential solutions may be to the paradoxical situation, Beall and Restall do not leave room for the latter conception of constructive mathematics and, as Priest (2001) notes, they deny that they are relativists about truth. The resultant pluralism they are left with, however, is not significantly more interesting than a pluralism between classical predicate and classical sentential logic. As Read points out, Beall-Restall pluralism permits

¹³ Certain statements that followed classically and intuitionistically would, of course, be true in both logical systems. Some statements, thus, may have the status of being both true-in-classical-logic and true-in-intuitionistic-logic. This fact does not, however, pose any particular problem as far as I can tell for our current discussion.

no conflict between any of the admissible specifications of GTT (Read 2006 p. 197).¹⁴ Therefore, in Beall and Restall's efforts to avoid conflict between equally good logics they are led to a version of logical pluralism that is equal on the interest scale to a pluralism of classical predicate and classical sentential logic.

It is worth mentioning that DeVidi is not the only philosopher to have raised concerns about the degree of interest that Beall-Restall pluralism warrants. Field is also on record raising several concerns similar to those raised by DeVidi. In this section I present two of Field's criticisms of Beall-Restall pluralism.

First, Field notes that "an obviously uninteresting construal of pluralism is that 'implies' can mean many different things, and in different meanings of it, different statements of the form ' Γ implies B ' come out true" (Field 2009 p. 345). Presumably it is obvious that in a sense we might say that the meaning of 'implies' in the statement "clouds are brewing in the west implies that it will rain shortly" means something other than what 'implies' means in the statement "Socrates is mortal implies that someone is a mortal." However, recognition that there is a sense in which implies can be associated with deductive and inductive reasoning alike is not going to motivate a very interesting version of pluralism. Such a view is already widely accepted and would make for a quite timid version of logical pluralism indeed. Field thinks that Beall-Restall's pluralism is better than this obviously uninteresting version of pluralism, and he is even willing to concede that it is correct.¹⁵

¹⁴ It is worth noting that Read (2006) thinks that in spite of Beall and Restall's efforts to avoid any conflict between admissible specifications of GTT, there is still a good possibility that some potential admissible specifications will conflict.

¹⁵ He has some hesitations that Beall-Restall pluralism is able to make relevance logic into an admissible specification of GTT.

However, he poses the question “if it’s unexciting that ‘implies’ can have so many meanings, why is it exciting that it can have many meanings of *this form*” (Field 2009 p. 346)? One point that Field may be after here is that if it’s unexciting that ‘implies’ can be interpreted in different ways, why is it any more interesting that one interpretation of implies—i.e. the GTT interpretation—can have further multiple interpretations? What is it about the latter view that is any more interesting than the claim that most philosophers would unthinkingly assent to: that ‘implies’ has an inductive construal, a deductive construal, and perhaps others such as an abductive or a conductive construal?

1.3.3.2 Lessons From DeVidi and Field

What lessons ought we to draw from DeVidi’s and Field’s concerns about the degree of interest of Beall-Restall pluralism? I think that the main point to extract from these criticisms is that logical pluralism, if it is a view worthy of careful philosophical scrutiny, ought to admit conflict between correct logics and ought not to be trivially true. In other words, the pluralist thesis about logic should be a claim that is somewhat more controversial than views that are obviously true and widely accepted. To be more specific the correct logics (i) ought to have different sets of valid arguments and (ii) must possess the same level of expressive detail. Whether DeVidi’s and Field’s respective cases that Beall-Restall pluralism does not satisfy these desiderata for a sufficiently interesting logical pluralism are correct—and my inclination is to think that they are—one point their discussion highlights is the importance that logical pluralism be a view that possesses these desiderata. After all there are many easy ways to make logical pluralism out to be true and philosophers who assert that “there exists more than one correct logic” as a substantive philosophical claim should not be

understood as claiming something that is unthinkingly regarded as obvious to other philosophers. At least they should not be so understood if more interesting and controversial versions of the thesis are up for philosophical discussion. Thus, when considering the contribution that DeVidi and Field make to the sufficient interest criterion we get two components (i) correct logics ought to conflict and (ii) the account ought not to be trivially true.

1.3.3.3 Field's Other Criticism

Field's version of the criticism just discussed is not Field's primary concern with Beall-Restall pluralism. Field has what he considers to be a more substantial concern with GTT. Field's more substantial concern, as I understand it, is directed at the adequacy of GTT as a formulation of the concept of (deductive) implication. While it is common for logic textbooks to explain validity in terms of truth-preservation in all cases, Field thinks that (deductive) implication is better grasped by considering how it connects with norms related to belief-formation; "Our views about implication constrain *how we ought to reason*, or (perhaps better) about *the proper interrelations among our beliefs*" (Field 2009 p. 349). Field proposes to hash out the notion of implication in terms of the normative constraints that knowledge of an implication should impose on relevant beliefs,

If one knows [is certain] that *A* implies *B* then one's degrees of belief should be such that one's degree of belief in *B* is at least that of *A*.
(Field 2009 p. 349)

A sensible question to ask Field is why understanding implication in the way proposed would preclude us from understanding implication as truth-preservation in all cases? Field's answer to this question is that certain inferential principles required to justify the claim that implication is necessary truth-preservation are inconsistent. In the rest of this section I discuss Field's argument that implication is not necessary truth-preservation illustrating how it highlights a key desideratum of a sufficiently interesting pluralism. I also illustrate why Field's case that logic is not truth-preservation is unconvincing.

The argument Field considers for the notion that belief is necessary truth-preservation has the following four steps,

- (1) The inference from A_1, \dots, A_n to B is valid.
- (2) The inference from $\text{True}(A_1), \dots, \text{True}(A_n)$ to $\text{True}(B)$ is valid.
- (3) The inference from $\text{True}(A_1) \wedge \dots \wedge \text{True}(A_n)$ to $\text{True}(B)$ is valid.
- (4) The sentence $\text{True}(A_1) \wedge \dots \wedge \text{True}(A_n) \rightarrow \text{True}(B)$ is valid. (Field 2009 p. 350)

This sequence of inferences gains its force from each step from (1) to (2), to (2) to (3), to (3) to (4) being logically necessary, and from certain minimal semantic assumptions about truth—such as the assumption that a declarative sentence ' α ' is equivalent to the declarative sentence ' α is true' (or the sentence ' $\text{True}(\alpha)$ '). What the series of inferences appears to show is that from the assumption that some inference i is valid, we can derive the conclusion that "if the premises of i are true, then the conclusion of i must be true." So, if there is an implication from some premises to some conclusion, then the implication preserves truth.

The above series of inferences constitute, in Field's mind, a derivation, perhaps even *the* derivation that (logical) implication is truth-preservation (Field 2009 p. 350). I don't think that this argument is the only, let alone the best, argument for that claim. Even though

Field's critique of the argument above is ultimately not sufficient to establish that implication is not truth-preservation, the lessons he draws from this discussion about the nature of validity offer some important lessons about the relationship between logical implication and norms constraining belief formation.

Basically Field thinks the argument for regarding implication to be truth-preservation is no good because "it turns on principles that are jointly inconsistent" (Field 2009 p. 351).¹⁶ To be a bit more specific Field argues that Curry's paradox shows that \rightarrow -**intro** and \rightarrow -**elim** rules are inconsistent with **True-intro** and **True-elim** rules.

How does Field arrive at the conclusion that these rules are inconsistent? Consider a sentence K that has the form,

$$T(K) \rightarrow \perp$$

In this sentence T represents a truth-predicate, and \perp represents some absurdity (such as "I am Pope").¹⁷ To understand how a sentence can be construed think of a scenario in which I pass a window display of television sets. I think that the current Prime Minister of Canada Stephen Harper, a politician whose forthrightness I have serious doubts about is on the television sets doing some kind of media scrum. Consequently I comment "If what that man is saying is true, then I am Pope." However, it turns out that, in spite of what I thought, the television sets are displaying video of the people looking at the display from outside the

¹⁶ I have my doubts that the sequence of inferences in 1-4 is the best, let alone the only, justification that could be provided for the claim that implication is truth-preservation, however, we can set those doubts aside for time being, for the purposes of this exposition of Field's criticism of Beall-Restall pluralism.

¹⁷ Strictly speaking, this should be a logical absurdity, but the for the sake of the example I ignore that nicety. Fastidious readers can perform the necessary substitutions.

window. So the sentence “if what that man is saying is true, then I am pope” is saying is that if the sentence itself is true, then I am Pope.

How does such a sentence produce a paradox? First, note that the sentence

$$(1) T(K)$$

is equivalent to the sentence,

$$(2) T(T(K) \rightarrow \perp)$$

Given that K is $T(K) \rightarrow \perp$ this equivalence should be clear. Having noted this equivalence, if we then apply the **true-elim** rule to (2) we get $T(K) \rightarrow \perp$. But given the equivalence (1) and (2) we can apply conditional-detachment (\rightarrow **elim**) and derive \perp . This is not all that paradoxical since all we have done is derive the absurd statement from the assumption that (1). However, a couple applications of \rightarrow **intro** rules will allow us to derive the *falsum* from no assumptions as follows. Since we have established that \perp follows from (1) we can use \rightarrow **intro** in order to derive $T(K) \rightarrow \perp$ (from no assumptions). We can then apply the **true-intro** rule to get another instance of (2) which, as was pointed out earlier, is equivalent to (1). So we have a derivation of (1), but this time from no assumptions. Next we can use the same argument that took us from the assumption of (1) to \perp above to the instance of (1) we have just derived from no assumptions and, thus, derive \perp from no assumptions. Hence, the paradox, and the inconsistency of the arrow rules with standard semantic assumptions about truth.

It is clear how this inconsistency between \rightarrow -rules and **True-rules** would present a difficulty for the argument above for (logical) implication being truth-preservation. If the argument that (logical) implication is truth-preservation employs inferential principles that

are jointly inconsistent, the argument is fallacious. Field proposes, therefore, to drop the conception of validity as truth-preservation and contends instead that we should focus on understanding (logical) implication solely in terms of the epistemic constraints it places on the relationship between certain beliefs.

Indeed, if Field is correct that (logical) implication is not properly understood as truth-preservation, then Beall-Restall pluralism would be seriously undermined given the crucial role GTT plays in Beall and Restall's defence of pluralism. If GTT is not at the core of logical consequence, then being able to make it precise in ways that generate different logics would not establish the existence of different logics. After all, the meaning of implication would not be properly captured by GTT.

The pressing question at this point is whether Field is correct that the meaning of implication is not truth-preservation. I will not say anything conclusive on this matter. However, one lesson that we can garner from Field's discussion is that a core component of the everyday meaning of 'implication' (or logical consequence) is captured in terms of constraints implication imposes on our belief. We might also add that, in addition to imposing constraints on belief pointed out by Field, implication also imposes constraints on discursive commitments. As Field notes, in the presence of an implication from a proposition p to a proposition q (or q is a logical consequence of p) one should believe q to an equal or greater degree to one's belief in p . Similarly, if one asserts, or otherwise commits oneself to the content of p , and p is shown to imply q , then one is committed to either q or to retracting their commitment to p .

As a first step to seeing why we might regard implication as truth-preservation consider why we might use ‘implication’ in this fashion in the first place. That is, why do we use implication to describe certain relationships between beliefs and commitments that we hold? One plausible answer would be if implication were truth-preserving. If inferences from some premises to a conclusion ensured that if the premises are true, then the conclusion must be true too, then we would have a good explanation for why we should believe the conclusion to the same or a greater degree to which we should believe the conjunction of the premises. Given the standard conception of belief as a form of *taking to be true*, if there are a set of premises—all of which we take to be true—that guarantee the truth of a conclusion, then we should either take the conclusion to be true or else moderate the degree to which we take some of the premises to be true. This explanation of the normative constraint implication imposes on belief is perhaps one reason for understanding implication in terms of truth-preservation.

This argument is certainly not a conclusive response to Field’s argument that implication ought not to be understood in terms of truth-preservation. However, it does indicate that there are other grounds on which to hold implication to be truth-preserving aside the argument critiqued by Field. In particular, in the argument from the above paragraph it is not the case that implication is truth-preserving because of an argument that uses **True-rules** and **→-rules**. Rather it could be regarded as truth-preserving since this would explain the constraints that implication imposes on beliefs and discursive commitments. Therefore, Field’s case that implication is not truth-preservation does not cut against the argument

provided in the last paragraph, since the argument in the last paragraph does not use the inference-rules Curry's paradox shows to be inconsistent.

I also think there are other grounds to think, *contra* Field's view, that implication can be understood as truth-preservation. One typical component of everyday deductive argument evaluation involves showing that certain inferences do not preserve-truth. If the notion of implication were not truth-preservation, then such everyday evaluative practices would require an explanation in terms that did not involve truth-preservation. Certainly such explanations are likely to be possible, but this does not mean that the worked out explanation of these evaluative practices will be better than the truth-preservation based explanation of them. There, thus, remains a significant unsatisfied burden of proof on Field's views that everyday meaning of implication is not truth-preservation.

1.3.3.4 Lessons From Field's Other Criticisms

In regards to Field's other criticism, the one he regards as more substantial, there are still general lessons to be drawn about the nature of an interesting version of logical pluralism in spite of the fact that his case that implication is not truth preservation is, at this point, unconvincing. The general lesson is that an interesting account of pluralism ought to have something to say about the normative constraints that logical consequence relations impose on beliefs and discursive commitments. Any account of logical pluralism should explain how different and conflicting consequence relations impose norms on belief formation. Different logics will have consequence relations that relate different sets of propositions. So what propositions ought we to believe if different consequence relations are correct? This is

especially problematic in cases where one proposition follows logically in one correct logic but not another from premises we believe. What are the norms determining whether we should believe or suspend judgment in such propositions? An interesting and compelling logical pluralism would have to have a plausible answer to such questions.

1.3.3.5 Hjortland on Meaning-Variance

Recently Ole Thomassen Hjortland (2012) has formulated a further concern with Beall-Restall pluralism. One important goal of Beall-Restall pluralism is that their account does not turn on a difference in meaning between logical connectives among the admissible specifications of GTT. One possible motivation for the Carnapian-like version of logical pluralism described by Field that we discussed earlier was that disputes between logics were merely verbal disputes, since differences between these logics are a result of the disputants adopting divergent meaning for the logical constants. Beall and Restall take care to distinguish their pluralism from Carnap's. Hjortland characterizes Beall and Restall as having the ambition to ensure that "their pluralism can arise *within one language*, even when the meaning of the logical expressions are kept fixed" (Hjortland 2012 p. 5). Or, in Beall and Restall own words,

Carnap's pluralism is not our kind of logical pluralism. . . . For us, pluralism can arise *within* a language as well as *between* languages. Considered as formal languages, the language of first-order predicate logic and the language of second-order logic are indeed different, and the consequence relations differ. However, when used as an account of the *form* of claims expressed in a natural language, such as English, the different formal languages give different answers to the validity of arguments in *one* language. Take the sentence

If two objects have the same properties, they are identical.

. . . . which is valid in classical second-order logic. If we do not have the machinery of second-order logic at our disposal, our original sentence is not taken to be valid. In this case the plurality between first-order and second-order languages gives rise to a plurality of verdicts about the one claim in the one language. (Beall and Restall 2006 p. 79)

Why is it important for Beall and Restall to avoid meaning variance at the level of the logical connectives? One reason that may come to mind—a reason Beall and Restall do not themselves provide—is that if there is meaning variance between the connectives of different logics, then disputes over contested inference rules are merely verbal; that is, such disputes are not genuine disagreements but chimeras based on the use of a different language by the participants in the dispute. If this is the case, disputes over contested inference rules are not rational but mere confusions. Such a view writes off several debates in the foundations of logic and mathematics as confusions (note this would imply that I disagree with what Field finds exciting in his understanding of Carnap's pluralism). Rather a pluralism which explained how the various views on contested inferences are rational, as opposed to confusions, avoids such a pessimistic diagnosis of central debates in the philosophy of logic.

The reason that Beall and Restall actually provide for trying to avoid meaning variance over logical connectives is that they want to show how several correct consequence relations can exist in one natural language such as English. While Hjortland agrees that this is an important characteristic for a pluralism to possess he thinks it is unclear that Beall and Restall have actually accomplished this task with their version of pluralism.

Why does Hjortland think that Beall and Restall do not achieve their goal of showing that Beall-Restall pluralism can arise within one language? The reason is that the different truth-conditions are associated with different logical connectives depending on whether *cases_x* in GTT is spelled-out in terms of models, constructions, or situations.¹⁸ The difference in truth conditions for the logical constants plausibly amounts to the assignment of different meanings to them. Hjortland quotes Priest as making a similar observation that the assignment of truth-conditions to logical connectives amounts to assigning a meaning to them,

If we give different truth conditions for the connectives, we are giving the formal connectives different meanings. When we apply the logics to vernacular reasoning we are, therefore, giving different theories of the meanings of the vernacular connectives. We have a case of theoretical pluralism; and the theories cannot both be right—or if they are, we simply have a case of ambiguity, as we have already seen. (Priest 2006 p. 204)

So, if the truth-conditions associated with a logical connective vary depending on the manner in which “cases” is made precise, the meaning of the logical connectives must also vary with that parameter. Beall-Restall pluralism would, therefore, not evade the meaning variance thesis.¹⁹

¹⁸ Beall and Restall think that models, constructions, and situations are three different ways of spelling out “cases” in to generate admissible specifications of GTT. If *cases_x* is understood as models then classical logic is correct; if understood as constructions, then intuitionistic logic is correct, if understood as situations, then relevance logic is correct.

¹⁹ Hjortland, after presenting the meaning variance based on truth-conditions objection, goes on to discuss a series of possible replies that Beall and Restall might be in a position to make toward this objection. Ultimately the reply Beall and Restall provide is to claim that different ways of making *case_x* precise articulate different ways of making the logic of the connective precise (Hjortland 2011 pp. 8-11, Beall and Restall 2006 p. 98) . So a full account of the logic of the connective involves all of the different admissible ways of making it precise.

One point shared by Beall, Restall and Hjortland is that an interesting account of how two or more logics could be correct involves illustrating how two or more logics are correct in one and the same natural language. Such an account of logical pluralism is desirable since it would be able to explain how, in one natural language, several consequence relations could be correct. This consequence would lead to interesting implications for the evaluation of natural language arguments found in everyday situations. .

Note that the satisfaction of this pluralism-in-one-language component may not require that there is no variation of the meaning of the connective within an object language. First, it is possible that there are modest variations of the correct meaning of a term within one language. We need not resort to the view that agents who employ slightly different meanings are operating in different languages. There is still a common ground in which communication and disagreements might take place in spite of a modest variation in meaning. Second, Beall and Restall may be right that a complete account of the logic of certain connectives could be provided by different assignments of truth-conditions to them. Thus, we need not avoid all meaning variance between logical connectives. Some modest variation in the meaning of constants within one and the same language seems acceptable.²⁰

However, even after a discussion of the various strategies open to Beall and Restall for addressing the meaning variance objection, Hjortland does not come to any final judgments as to whether Beall and Restall have a viable method of responding to the meaning variance objection. Rather he goes on to suggest alternative ways that one can make sense out of the idea that there is more than one logic within the same language.

²⁰ It is difficult to distinguish clearly which variations in meaning are modest compared to those that are more significant and it is not possible for me to enter into this vexed issue here. However, I think we do have some pre-theoretic intuitions on the matter that can be of service. Roughly the distinction between modest and significant variation can be understood in the following way:

At this point one may think that the desideratum that the Hjortland's discussion suggests is something like a pluralism-in-one language desideratum. The pluralism-in-one-language desideratum would presumably be something to the effect that an interesting version of logical pluralism must illustrate how two or more logics are correct in one and the same natural language: where natural language is understood in a generous fashion where it is a medium in which two speakers can communicate with one another. However, formulating the desideratum suggested by Hjortland's discussion in this way is unduly narrow. Speakers of different languages could use different words that have the same or very similar meanings to one another. Why would we want the correct logics to be limited to one particular language?

Rather than focusing on the same natural language I think we can capture the spirit of Hjortland and of Beall and Restall's efforts to define logical pluralism within a single natural language with what I call the "no talking past each other" desideratum. This desideratum allows for the possibility that different agents will be reasoning about the same concept in the same communicative transaction and one of them will be correctly making logical inferences

A modest variation of a term: a variation of meaning of some term α in a language L is modest if and only there are at least two legitimate interpretations of the meaning of α that vary modestly.

And,

A modest variation in Interpretation: Interpretations I and N of some term α vary modestly if and only if in I and N *the core* of α is identical.

To illustrate: models, situations and stages are all interpretations of "cases." However, in all these interpretations of cases *the core characteristic* of cases as *ways in which sentences can be true* is identical. In other words all these interpretations think that a case is a way something can be true even though they differ over the details of how things are true. Thus, the variation between models, situational and stages in their interpretation of what a case is can be said to be modest.

that the other correctly withholds from making (that different inferences are valid for reasoning with the concept for the different agents). In other words, in a sufficiently interesting pluralism it should be possible for agents who are using the same concepts to correctly apply different logics while reasoning about those concepts. The “no talking past each other” is the desideratum that I adopt moving forward as I assess the major accounts of logical pluralism currently on offer.

1.3.4 Summary of Desiderata of a Sufficiently Interesting Logical Pluralism

Before we proceed I want to briefly recap the main points our discussion has brought to the foreground. So far we have isolated six desiderata that a sufficiently interesting version of logical pluralism ought to possess. These desiderata arise from considering deficiencies and strengths of existing versions of pluralism, in particular from deficiencies and strengths in Field’s Carnapian pluralism and in Beall-Restall pluralism. The underlying assumption is that if various versions of logical pluralism possess such and such deficiencies and such and such strengths, then efforts to formulate a less deficient pluralism should avoid those deficiencies and exhibit those strengths. First, we saw that a sufficiently interesting pluralism should explain how opposing views about the validity of controversial inferences such as double-negation-elimination, disjunctive syllogism and *ex falso quodlibet* can be reasonable. We isolated this desideratum by considering Field’s grounds for excitement with Carnapian pluralism. Field’s reason for thinking that Carnapian pluralism is exciting is that it dissolved disagreement between apparently conflicting logics. We did not follow Field in his thought that what makes Carnap’s pluralism exciting is that it dissolves all disagreement between

logics. Certainly there is something exciting about this, but there are other virtues of Carnap's account that are at least as exciting. I claimed that an account of logical pluralism which explained how different positions on the validity of conflicting logical principles are rational is at least as interesting as what Field found exciting about his interpretation of Carnap.

The second desideratum was that any interesting account of logical pluralism should have a plausible answer to the Priest-Read challenge. The Priest-Read challenge asks how a pluralist can settle the truth-value of a proposition that follows from true premises and an inference rule that is valid in one correct logic, but not in another. A compelling version of the pluralist thesis about logic must address this challenge in a way that does not undermine satisfaction of other desiderata.

Third, a sufficiently interesting version of logical pluralism involves multiple conflicting logics being correct. We arrived at this component of a sufficiently interesting pluralism by considering deficiencies in Beall-Restall pluralism pointed out by DeVidi. Beall-Restall pluralism results in no conflicts between intuitionistic and classical models and, thus, it is not clear how it is sufficiently more interesting than a hypothetical pluralism between classical sentential logic and classical predicate logics, or other extensions of classical sentential logic.

The fourth desideratum of an interesting pluralism is that such a pluralism ought not to be true on trivial grounds. We arrived at this component by considering a deficiency that both DeVidi and Field pointed out with Beall-Restall pluralism. The argument is that Beall-Restall pluralism is similar to positions that many philosophers would unreflectively presume

to be true—such as the view that, if classical sentential logic and classical predicate logic are distinct logics, then it is clear that there is more than one correct logic, or the view that “implies” can have multiple interpretations some of which are deductive others which are inductive or abductive.

The fifth desideratum was that any account of logical pluralism must describe the norms governing belief formation and discursive commitment imposed by the logical consequence relation. This desideratum arose from considering certain virtues of Field’s account of logical validity (even though we found that account of validity to be problematic). Field argued that implication was best understood in terms of such norms governing belief formation and not in terms of truth-preservation. While, as I argued, validity likely involves the notion of truth-preservation, the norms related to belief formation are an important, and even a core, feature of logical consequence. Since logical pluralism would have different consequence relations, relating different propositions, a plausible and interesting version of pluralism should be able to explain what an agent ought to believe in a situation in which a proposition logically follows from propositions they believe in one correct logic but not in another.

Finally, we examined Hjortland’s criticism of Beall-Restall pluralism. Hjortland pointed out that Beall and Restall have not adequately defended their claim that their pluralism is a pluralism within one and the same language. Rather, Hjortland argued that Beall and Restall have more explaining to do in order to clearly show how their account does not rely on meaning variance over the logical constants. If it does so rely it starts to resemble something more like Field’s Carnapian version of pluralism in which the disputes over

contested logical principles are nothing more than confusions over the meaning of terms as opposed to reasonable disagreements over controversial inference rules. I argued that the spirit of Hjortland's and Beall and Restall's efforts to define logical pluralism in one and the same language is really captured by a "no talking past one another" desideratum. This desideratum states that a sufficiently interesting pluralism should allow for the possibility that reasoners will be using the same concepts, in the same communicative transaction, and correctly make inferences that are valid in different logics.

I am not sure if this is a complete list of all the desiderata of a sufficiently interesting pluralism. However, given a study of the current state of the literature on pluralism these are the characteristics that various authors have thought important for logical pluralism to possess. In the following sections of this chapter I discuss Field's, DeVidi's, as well as some other alternatives to Beall-Restall pluralism in order to examine how well they satisfy the list of desiderata that we have extracted from current scholarship on logical pluralism.

1.4 Some Alternatives to Beall-Restall Pluralism

Having raised the various criticisms against Beall-Restall pluralism discussed in the previous section, DeVidi, Field, and Hjortland each propose their own versions of logical pluralism. In this section I present these alternative accounts of logical pluralism and assess whether they satisfy the desiderata of a sufficiently interesting logical pluralism.

1.4.1 Field-Pluralism

Field thinks a version of logical pluralism can be motivated²¹ by recognizing that we use logic to accomplish a variety of different goals. For some sets of goals there may be several logics that can serve our purposes equally well and, thus, several “correct” logics. Field explains his version of logical pluralism by making the following four basic points,

- 1) There are different possible logics.
- 2) We can evaluate these possible logics for how well use of them would satisfy various goals. In the evaluation we of course use a logic . . . but there is no good argument that in using a logic L to evaluate itself and other logics, L will always come out best in the evaluation.
- 3) Whether because of a detailed assessment or simply by intuitive assessment, we regard some logics as better than other (for a given goal). We certainly don’t regard all logics as equally good Relative to almost any goals one might have, a logic that allows you to affirm the consequent is a bad logic, in that it will have a deleterious effect on achieving those goals.
- 4) But it isn’t obvious that there need be a uniquely best logic for a given goal, much less that we should think of one logic as “uniquely correct” in some goal-independent sense. (Field 2009, p. 355-56)

²¹ Ultimately he is doubtful that even this version of pluralism ends up being of interest (Field 2009 p.p. 357-359), however, we will consider his attempt at motivating a version of logical pluralism and formulate an independent case for whether it would satisfy the sufficient interest criterion formulated above.

How well does Field's version of logical pluralism satisfy the desiderata of a sufficiently interesting version of logical pluralism? Overall I think it does quite well on several components, but it remains unclear how well it satisfies a couple of the desiderata.

Since the first component was extracted from Field's discussion of Carnap, perhaps it is unsurprising that it would satisfy the first desiderata. The first desideratum, recall, was that a sufficiently interesting pluralism should have the resources to explain how different views about controversial inferences (such as double-negation-elimination or the principle of explosion) could be reasonable. Opposing views on controversial inferences can be reasonable, on Field's view, when logics that disagree over the controversial inferences are equally good at facilitating accomplishment of a reasoner's goals. There is no fact of the matter on Field's system that would decide who is right or wrong if two logics do equally well at achieving the goals on whose behalf they are being employed. The only issue in the evaluation of logic is which is better or worse relative to these goals.

The second desideratum was that it must be possible for correct logics to conflict or disagree with one another. There is no reason why conflicting logics could not be, in principle, correct on Field's model. In particular it seems clearly possible that relative to some goal A, some logic L, may be the best logic to employ. However, relative to a different goal B logic L* is best. For instance, some logic may be just as good at satisfying the goal of inferential power, say classical logic, as another logic is at satisfying the goal of relevance, say relevance logic. For certain, there would need to be some general standard that compares success relative to goals in order to assess the comparative goodness of logics relative to goals. However, this is likely not an impossible task to accomplish.

What is perhaps more interesting is whether given a particular set of goals it is possible to do equally well if one infers in accordance with, for example *ex falso quodlibet*, or withholds from making such inferences. Reasoning with or without such a principle may lead to equally successful accomplishment of some reasoning goal for logic. Even though there is no clear reason why Field's views do not allow for two or more conflicting logics to be correct, a demonstration of a concrete example in which two logics do equally well at the accomplishment of a set of goals would add further credence to the contention that Field's logic satisfies the second desiderata. Many of the goals which we might use to evaluate some logics suggest one logic over another. For instance, the goal of inferential power would select classical or second-order logic over intuitionistic or relevance logic. However, the goal of informational containment would seem to favour intuitionistic logic. Ultimately it will be unclear whether Field's account of pluralism satisfies the second component until an example of how two conflicting logics can be correct, or equally good, given some set of goals.

Field's pluralism is not trivially true. Field's pluralism does not reduce to a view that is widely held among philosophers, such as a pluralism between classical proposition logic and classical predicate logic. There is nothing about Field's view which is incompatible with, for example, intuitionistic models being genuine counterexamples to some classically valid inferences. Field's discussion of pluralism adds a new dimension to the dialectic surrounding logical pluralism. If pluralism is the claim that more than one logic can be equally effective at the accomplishment of some set of goals, then Field's pluralism does seem worth close philosophical scrutiny.

Does Field-pluralism have an answer to the Priest-Read challenge? Anything I can say here would be highly speculative since Field does not agree with the standard view that the concept of implication involves truth-preservation. Also since goals other than truth-preservation are possible reasoning goals, the Priest-Read's challenge may not be relevant on Field's view. Consider a logic K that can prove more claims than a logic L because L does not adopt some inference rule found in K . While K may have more inferential power and produce more truths, *vis-à-vis* some other goal such as information containment L may be better. If logics give conflicting judgments about the truth of a certain proposition, the issue is which of the logics better serves our goals. Once we have sorted out the relevant goals we don't need to be concerned about the logics entering into conflict.

This would be a fairly compelling response to the Priest-Read objection. However, if this is the route taken it would result in any genuine conflict between different logics dissolving. Logics would never really enter into conflict since deciding which logic to use would simply be a matter of sorting out which logic is better relative to certain goals. For set of goals A it is right to use logic L , while for set of goals B some other logic is appropriate. In deciding whether or not we ought to believe a certain proposition that follows from premises we believe and a controversial inference it is a matter of sorting out which logic is best for achieving our goals.

If proponents of Field-pluralism were to take the more interesting approach and show that two or more logics are equally good at satisfying one particular set of goals, then the Priest-Read challenge would rear its head in a fashion that is not as easy to address. It would be difficult to see how, for instance, Field-pluralism could endorse the view that two or more

logics are equally good at accomplishing the goal of truth-preservation. The logic that was the most powerful in this regard, presumably classical logic, would be able to prove more true claims than any other logic. Every logic would have to employ models consistent with the most powerful logic, otherwise there would be a serious uncertainty about how to settle the truth-value of propositions that follow from controversial inferences. However, in that case there would be no genuine conflict between them and Field-pluralism would be in jeopardy of failing in regards to the second desideratum.

While Field develops his version of logical pluralism with the constraints logical consequence imposes on belief in mind, there are still some questions as to the extent to which his pluralism satisfies the fifth desideratum. That is, there are still concerns as to whether Field's account is adequately sensitive to norms connecting logical consequence with constraints on belief formation. Presumably the various different equally good logics for some goal will lead to slightly different constraints on belief formation. So, for instance, if intuitionistic and classical logic are equally good given some goal, what constraint exist on believing some proposition a given a degree of belief n in the negation of $\neg a$? Classical implication would suggest that a should be believed to at least degree n whereas there is no such constraint given intuitionistic implication. So, in such scenarios, would one be constrained to believe a to degree n or not on Field's pluralism? Until this issue is sorted out it remains unclear how well Field has illustrated how his version of logical pluralism is connected with constraints that logical consequence imposes on the degree to which we ought to believe various propositions.

Finally, does Field's account allow for a pluralism within one language? Field's pluralism may be subject to a similar criticism to the one that Hjortland raised against Beall and Restall. The different logics will have different truth-conditions associated with the connectives, and according to Hjortland (2011) and Priest (2006), this variation in truth-conditions translates into a difference in meaning. It may then be questionable whether Field is developing a pluralism within the same language. However, if the variation in meaning is sufficiently modest it might not amount to a variation in language between the two different logics. Moreover, it is possible that agents could have different goals while reasoning with the same concept in such a fashion that different inferences are correct for them. While Field does not provide any examples of how such a scenario may arise, it is not inconceivable that it could. Thus, Field-pluralism could in principle satisfy the "no talking past each other" desideratum.

Overall it seems as if Field's version of logical pluralism holds promise in regards to it being a sufficiently interesting version of logical pluralism, although it remains unclear the extent to which he has satisfied the second, the fourth, and the fifth desideratum. It remains to be explained how Field-pluralism can explain the relationship between logical consequence and constraints on beliefs, how more than two conflicting logics can be correct given some set of goals, and whether it is possible for two conflicting logics to be correct in the same language. Until compelling explanations of how Field-pluralism satisfies these desiderata the extent to which Field-pluralism is a sufficiently interesting version of logic pluralism remains unclear.

1.5 DeVidi Pluralism

DeVidi has proposed another way to explain how more than one logic might be correct. DeVidi claims that logical pluralism can be motivated by recognizing that there are subtly different ways of answering the question “what makes something logic?” These different ways of answering this question can justify different logics. DeVidi proposes the following list of a few different answers that would make some principle logical,

- 1) Logic is *topic neutral*: a logical truth is metaphysically neutral, and does not depend for its truth on any presuppositions about what the world is like.
- 2) Logic has to do with when the truth of some statements necessitate the truth of others: logically correct inferences are *necessarily truth preserving*.
- 3) Logic is *the science of correct inference*
- 4) (Deductive) inference is supposed to be *non-productive*. The point of the claim is that when you apply a logical rules to a set of premises, the conclusion can't be something which wasn't already “implicitly contained” in the premises. (DeVidi 2011, p. 107)

Indeed many philosophers and logicians have taken these answers to the question “what makes something logic” to be in some way equivalent or reducible to each other. What is surprising about DeVidi's claim is that these answers to the question may in fact have subtle differences that make them divergent answers to the question “what makes something logic.” While, say, an intuitionistic logician may think (1) to be an important aspect of logic and insist that logic ought not to encode any substantial metaphysical commitments, the relevance logician—noticing that in disciplines such as the law we often reason with inconsistent sets of information without drawing irrelevant conclusions—will insist that the science of correct inference requires that conclusion and premises be relevant to one another.

By mixing and matching subtly different answers to the question “What makes something logic?” DeVidi contends we can motivate the construction of different logics. What DeVidi points out is that all of the above seem to have an equal claim to being part of the core notion of logic and thus, if we can use these ideas of what makes something logic to develop different logics, then it seems that several different logics have a legitimate case for being considered “logics.”

Does DeVidi-pluralism satisfy the desiderata of a sufficiently interesting logical pluralism? First, DeVidi-pluralism has a good explanation available about how different positions on controversial inferences could each be reasonable. The different conceptions are reasonable because they arise from different legitimate answers to the question “What makes it logic?” The relevance logician will answer this question slightly differently than the classical or intuitionistic logician. This small difference in answers, however, results in different attitudes toward the validity of certain inference schemes. But if the answers to the question “what makes it logic” that motivate these divergent attitudes are equally legitimate, no one attitude toward the validity of controversial inferences is any more justified or reasonable than another.

Is DeVidi-pluralism able to generate more than one conflicting logic as legitimate? DeVidi is quite straightforward on this. He regards intuitionistic logic and classical logic, for example, as systems that disagree over the set of valid inferences and over the set of logical truths. Thus, in one sense the answer to this question is clear. Conflict arises between the different logics because they disagree on DeVidi’s model.

However, DeVidi's view would run into difficulties responding to the Priest-Read criticism against logical pluralism. If some inference i from a set of true premises P to a conclusion q is valid in a logic K but not valid in a different logic L , can we settle the truth of q given only this information? The answer seems to be yes. K tells us that q must be true. Presuming that K and L are logics motivated by different legitimate answers to the question "what makes it logic" (consider a disjunctive syllogism for i classical logic for K , and relevance logic for L), then something seems to have gone wrong. K is able to provide more logical consequences than L and, thus, the logics do not seem to be equally correct. Moreover, if logic is truth-preserving, K cannot lead us astray in the sense of giving us a false conclusion when we have all true premises. It is difficult to see why we would not simply adopt the logic K as our all-purpose logic. K never leads us astray and it proves more truths than L . A proponent of L may consent that K is true, but claim that i is not a logical principle since logic is, say, primarily about containment as opposed to truth-preservation. However, a pluralist about L and K would not be able to regard L and K as equally good—at least as being equally good with respect to which logic is able to prove more true propositions. If K was able to prove more true propositions, some other purpose would be needed for L . Such alternative purposes for a logic aside proving true propositions are certainly available (as was mentioned in the section on Field-pluralism). For instance, constructive proofs are often desirable in mathematics since they provide more information than classical proofs, even though classical proofs will do fine in so far as we are only interested to establish the truth of a proposition.

However, if this is the route that the DeVidi-pluralist would take to answer the Priest-Read challenge any conflict between K and L would dissolve. If the intuitionist simply regards their logic as providing more information than classical logic, but strictly speaking classical logic can prove more true propositions, then why would we make out intuitionistic models that disagree with classical models? Why not adopt an approach like Beall-Restall in which constructions are subsets of classical models? For the logics to genuinely disagree it must be possible for some claims to be false in intuitionistic models that could not be false in any classical model. But it is puzzling as to why we would adopt such an approach to constructive models if it is not possible for propositions that follow from true arguments via double-negation-elimination to be false. If such were the case it would seem fine to adopt the Beall-Restall approach in which constructive models are subsets of classical models.

So the DeVidi-pluralist runs into a tension between maintaining genuine conflict between logics and answering the Priest-Read challenge. One way to alleviate this tension on DeVidi's view would be to make different logics correct in different subject matters or domains of discourse. There are not different disagreeing logics appropriate for use in a single subject. Rather, each subject will have one logic appropriate for it. Perhaps in subjects that involve reasoning about everyday normal sized physical objects classical logic is most clearly appropriate, while in subjects that involve reasoning about subatomic particles perhaps some version of quantum logic is better.

A similar sort of subject relative pluralist-like view has been developed by Michael Dummett (1993, 1996). According to Dummett, subject matters in which every declarative sentence ought to be understood as either true or false are subject matters in which classical

reasoning is correct, while subject matters in which some declarative sentences are neither true nor false are subject matters in which intuitionistic reasoning is correct. However, it is not clear that Dummett is actually proposing a version of logical pluralism, since for Dummett intuitionistic logic appears to be the one correct all-purpose logic. Classical logic is acceptable when excluded middle can be added to intuitionistic logic because of special characteristics of the sentences in some domains of discourse (those for which every sentence should be understood as being determinately true or false).

To illustrate consider an analogy with the principle of mathematical induction (MI). MI is not a logical principle, though it is a key inference principle in, for example, arithmetic. So if you know we are dealing with an appropriate domain, we can apply MI as we do any logical principle. What makes MI non-logical, however, is that there are models in which MI fails—for instance, the real numbers. Without going too deeply into Dummett's view, one strand of his thinking teaches us that double-negation-elimination and indirect proof can be regarded in a similar light to MI. Double-negation-elimination and indirect proofs fail in certain cases in which there are propositions that are not determinately either true or false, but work in domains in which every proposition is determinately true or false. So depending on the domain certain inference principles work that do not work in other domains. While this is not really a logical pluralism, enquiring minds might wonder if a logical pluralism could be motivated on roughly Dummettian grounds in which different logical-principles are valid in different domains. Indeed, if different logics are correct relative to different subject matters, then that would be one way to make sense out of DeVidi's pluralism in such a fashion that the Priest-Read criticism no longer causes difficulties for it. When compared

directly to each other different correct logics will disagree over the set of valid inferences. However, these logics would never *enter into*, so to speak, disagreement with each other since in any given subject matter only one logic would be correct. There is no puzzle about whether q is true given that q follows validly in some correct logic but not some other correct logic. After all in any subject matter only one of the correct logics is appropriate. Thus, on a subject relative pluralism, q will be known to be true only if it follows from the logic that is appropriate for the subject matter of which q is a part. For example, if a constructive approach to mathematics is on the right track, then a mathematical proposition that follows from indirect proof would not necessarily be true. However, such a constructivist may very well think that a proposition about everyday objects that follows from indirect proof is true.

There is a potential problem, however, for a subject-relative version of logical pluralism. Consider any subject matter that involves reasoning about typical normal-sized everyday objects. Take, for instance, the subject of building construction. Presumably this involves reasoning about everyday objects. Some of these objects will have clear and well delineated boundaries. However, others may have vague boundaries. Specifically, before all the walls have been erected in a structure reasoning about what room one is in, or would be in, if the walls were erected, is not an exact activity. Many have claimed that a non-classical logic is most appropriate when reasoning with vague language.²² It is not necessary to take a definitive stand on whether such situations are handled best by an intuitionistic logic, a

²² For solutions to problems arising from vagueness that apply intuitionistic logic see Putnam 1983. For criticisms of Putnam's approach see Wright (1987, 1992a). For discussions and replies to Wright's criticism see Edgington (1993) and DeVidi (2005). Also for interesting discussions of paraconsistent approaches to vagueness see van Bruwaene (2004).

many-valued logic, or a supervaluationist approach.²³ However, the point is just that the appropriate logical tools may vary from situation to situation even within one subject matter.

Recognizing this difficulty with a purely subject-relative approach we may be led to consider an approach in which appropriate logics would be relative to the particular situation in which an inference may take place. Both a purely subject matter relative and situation relative version of logical pluralism appears to avoid *direct* conflict between logics. We can establish the truth-value of some claim that follows from a deductive inference without controversy because only one logic will apply to any given situation. While this addresses the Priest-Read criticism, it does so at the expense of a pluralistic account in which there is genuine conflict between logics. While the logics differ over the set of valid inferences, they do not enter into any genuine disagreements since only one of them is appropriate to use in any particular situation. When it is determined which logic is appropriate for the given situation, then any controversy that arises because of the use of divergent logics should dissolve. In other words, if the route to address the Priest-Read criticism involves adopting a situation relative logical pluralism it is unclear the extent to which these versions of pluralism would end up satisfying the second desideratum of a sufficiently interesting version of logical pluralism.

If there is not genuine disagreement or conflict between these logics, we might wonder if there is a coherent version of pluralism that can be worked out in which logics do genuinely conflict. Wouldn't such a version of pluralism be more interesting? It certainly would more clearly satisfy the second desiderata. The possibility of such a brand of pluralism

²³ For supervaluationist approaches to vagueness see Williamson (1992).

may strike some as absurd and outlandish. The Priest-Read problem seems to be almost definitive against such views. How can some inference be valid and not valid in the same situation? Is that not just an instance of a straightforward contradiction? What would this mean for the truth of claims that follow from true premises in one logic, but not in another? In the next chapter I set out to respond to these problems arguing that there are plausible versions of a *situational pluralism*; that is, a pluralism in which more than one conflicting logic is correct in the same situation.²⁴ Such a version of pluralism would, in quite a stark fashion, satisfy the second desiderata. While a defence of the plausibility of such a version of pluralism will have to wait till the next chapter, in the next section of this chapter I further argue that such a version of pluralism is intriguing and *prima facie* satisfies the second desiderata.

Before moving on to the next section, however, we still have to discuss how DeVidi-pluralism fares on the other four desiderata of a sufficiently interesting pluralism. The third desideratum says that an interesting version of pluralism should not be trivially true. DeVidi's version of pluralism, like Field's, clearly satisfies this component. Philosophers do not unthinkingly hold that there are many subtly different answers to the questions about what logic is. In fact, if anything, the tacit belief is that most of the answers to "what is logic" are somehow equivalent. Moreover, aside from DeVidi, no philosopher or logician that I am aware of believes that it is somehow obvious that these subtly different answers to the question "what makes it logic" can motivate logics with conflicting sets of valid inferences.

²⁴ The particular variety of situational logical pluralism that I develop I call *logical contextualism* since on my account logics are correct relative to particular contexts, but more than one context can *sometimes* be present in the same situation.

This would be a new view in the field, one which is falsifiable. For instance, it could be that for all intents and purposes the answers to the question “what makes it logic” are, as many might tacitly suspect, equivalent when properly spelled-out. Even if they are not, can they really be used to motivate different logics? How do we know they are all legitimate answers to this question? Perhaps only one answer to the question is sufficiently clear. It should be apparent that DeVidi pluralism is a philosophical thesis that can be supported or opposed with rational argumentation and is one that is not already widely held in the philosophical community.

Fifth, is DeVidi’s version of pluralism compatible with the norms that logical consequence imposes on the relations between beliefs? It is not obvious that it is or is not compatible. Like Field’s account more information is required before making a definitive decision whether this component has been satisfied. If only one logic is appropriate for any subject matter, then it would be fairly straightforward as to how DeVidi’s pluralism would be compatible with the relevant norms. In a subject matter S , if p entails q in S in accordance with the appropriate logic for S , then one should believe q to at least the same degree that one believes in p . However, if it is possible two or more logics to be correct in a subject matter or situation, then how do we sort out to what degree of belief one ought to have for q ? In order to determine whether DeVidi’s version of pluralism is compatible with constraints that logical consequence imposes on the relationships between our beliefs more information is required. Thus, it is unclear the extent to which DeVidi-pluralism satisfies the fourth component of the sufficient interest criterion.

One interesting option that DeVidi-pluralism has available is to adopt Field's conception of implication in terms of degrees of belief as one of his answers to the question "what makes something logic." However, Field's view encountered its own problems with this desideratum as well. How do we determine what degree of belief to hold toward propositions that follow in one correct logic, but not in another?

Finally, can DeVidi's pluralism arise within the same language? Plausibly it could. All that would be required is that different legitimate answers to the question "what makes it logic?" be possible within the same language, and that these different answers be apt to form the basis for formulating conflicting systems of logic. Presumably DeVidi-pluralism holds that at least all the subtly different answers to the question "what makes it logic" can be answered in, and can motivate different logics in, at least English if not most contemporary languages. However, it is unclear whether DeVidi-pluralism satisfies the no-talking-past-each other desideratum. If, for instance, DeVidi adopts a domain relative version of pluralism in order to address the Priest-Read challenge, then it is difficult to see how two logics could be used to reason with the same concept in the same communicative transaction. After all if we are using the same concept in the same communicative transaction it we would, presumably, be operating in the same domain. And, therefore, would be using the same logic since, on the view, there only one correct logic per domain.

In sum, like Field's version of pluralism, DeVidi-pluralism does well in satisfying the desiderata of a sufficiently interesting logical pluralism. However, there are still some outstanding questions that need to be addressed. In particular, does the response we considered to the Priest-Read criticism press DeVidi-pluralism into a situation in which

genuine conflict between correct logics does not arise? Secondly, this account needs to say more about what norms logical consequence imposes on the relationship between beliefs. And, finally, if DeVidi pluralism adopts some kind of domain relative version of pluralism in which there are different correct logics in different, domains, then it is unclear how DeVidi-pluralism could satisfy the no-talking-past-each-other desideratum.

1.6 Shapiro on the Varieties of Pluralism

In his recent paper “Varieties of Pluralism and Relativism for Logic” (2012) Stewart Shapiro discusses a number of different ways in which one might be a pluralist about logic. I will not discuss all of the ways of being a pluralist described by Shapiro. Some ways of being a pluralist he discusses closely resemble versions of pluralism already described above.²⁵ Others are briefly sketched, require further development, and have not been further discussed in the literature. However, two are of particular interest. First there is model-pluralism. Roy Cook (2010) is on record supporting this version of pluralism and, thus, it is worth describing here. Secondly Shapiro briefly considers one way of motivating pluralism that I find particularly interesting. He suggests that a logical pluralism can be developed by regarding different sorts of controversial inference rules as correct in different conversational contexts.

²⁵ In particular Shapiro considers a version of pluralism that looks very similar to DeVidi-pluralism. He considers the multiple senses in which a sentence α can be a logical consequence of a set of sentences Γ (for instance, there is a modal sense, a semantic sense, an epistemic sense, a relevant sense, and a topic neutral senses). These various senses in which some inference can be characterized as a logical consequence emerge because there are multiple conceptions of what logic is. Some of these multiple conceptions might be reducible to each other, but others Shapiro thinks may be distinct and not reducible to each other.

I discuss Shapiro's brief mention of this method of being a pluralist since it will have some similarities with an account I develop more fully in subsequent chapters.

1.6.1 Logic-as-model-pluralism

Shapiro (2011) and Cook (2010) consider a version of logical pluralism they call logic-as-model pluralism. As the name suggests, this version of pluralism understands logic as a sort of mathematical model of logical consequence in a natural language. Shapiro explains,

. . . a formal language is a *mathematical model* of a natural language in roughly the same sense as, say, a collection of point masses is a model of a system of physical objects, a set of differential equations is a model of bacteria growth in streams, and a Turing machine is a model of an algorithm or computing device. In other words, a formal language displays certain idealizing features of natural languages, while ignoring, simplifying, or idealizing other features. (Shapiro 2011 p. 537)

What gets idealized and what gets ignored in mathematical models depends on the purposes for which one is constructing the model. The purpose of logics as models would, presumably, be to provide a model of logical consequence. However, logical consequence is, according to Shapiro, a polysemous concept with different aspects. Focusing on these different aspects can lead to different models. "There is a practice of deducing arguments, the practice of refuting arguments, and perhaps others. So there could be different logics that model different aspects of logical consequence" (Shapiro 2011 p. 537).

In general there is no reason to expect that our models of logical consequence would get things exactly right any more than our models of other natural phenomena get things

exactly right. However, even though no model may get things exactly right several models may do equally good jobs of capturing logical consequence. Some logics will do a better job of representing certain characteristics and a worse job of representing others. An overall assessment of the advantages and disadvantages of different logics may result in no one of them standing out as doing a clearly better job of representing logical consequence. The possibility of several equally good models opens a space for a version of logical pluralism in which different conflicting logics capture different components of logical consequence. As Cook puts it, the logic-as-model view allows for there to be “multiple, incompatible, competing models of the same phenomenon” (Cook 2010 p. 500).²⁶

Before examining how the logic-as model approach to pluralism fares in light of the desiderata it is worth noting a disanalogy between scientific models and logic used as a model. In scientific models there is presumably a fact of the matter about the ontology of physical systems that can be used to decide, or at least to support decisions, between different scientific models. However, with logical consequence it is not clear that there will be a fact of the matter that can be invoked to decide between different models. For instance, it is a bit mysterious to think what ontological facts could indicate whether we ought to include or exclude the law of excluded middle of *ex falso quodlibet* in our models of logical consequence.

²⁶ It is worth noting that if the models are modeling different subsets of the same phenomenon it is not clear that they would be competing models. Two models can model the same phenomena, but one could be taking a larger perspective on the phenomena in question also modeling additional phenomena in the process. For instance a model of the galaxy would include both gaseous and solid planets. However, it is possible to model only the solid planets in the galaxy. The latter model is a subset of the former model and would not disagree with the former.

Putting that disanalogy aside, we can now proceed to discuss how this view fairs when examined in light of the desiderata? First, the view, at least *prima facie*, could explain how opposing standpoints on controversial inferences are reasonable. The opposing standpoints are reasonable since they are applying different models of the relevant reasoning. Say, for instance, some reasoner infers in accordance with *disjunctive syllogism*. On the classical and intuitionistic models of logical consequence such an inference is valid and in good order, but it is not on (several versions of) relevance models of logical consequence. The different models being applied are zeroing in on different aspects of logical consequence even though they are each respectable models of that phenomenon in their own right. Given the respectability of the various models, those who apply the models (or of the agents engaged in a dispute over a controversial inference) are rational in their reasoning toward which they apply the respectable models.

One might wonder what makes a model of logical consequence respectable. There are a variety of considerations that could presumably factor into the assessment of the respectability of a model of logical consequence. In general it is not crucial for a respectable model to “get things right” (Shapiro 2011 p. 538, also see Cook 200 p. 500) A respectable model will find a satisfactory balance between workability—that is not being excessively cumbersome to apply—and realism—that is, correctly describing the phenomena it aims to describe (Shapiro 2011 p. 538). But, the point for an assessment of how well logic-as-model pluralism satisfies the first desideratum is that respectable models need not agree. In their efforts to model different aspects of logical consequence, different inferences may be acceptable according to the different models. Thus, agents working with one model may

validly infer in accordance with an inference that agents working with another model would not validly infer in accordance with.

Is there genuine conflict between the different correct logics on the logic-as-model view? Consider the following line of reasoning to think that the logic-as-model approach may produce genuine conflict among logics. The logic-as-model view results in such conflict because different idealizations of different pieces of observational data are justified given different theoretical goals (Cook 200 p. 501). Certain idealizations of logical consequence better explain certain observations about logical consequence while other idealization better explain other observations about logical consequence. There may be no fact about which idealizations are better since given different purposes explaining different sets of observations may be appropriate. Those operating in, what we might call, the intuitionistic idealization of logical consequence will not regard excluded middle and the inferences that depend on the correctness of that principle to be logically valid, while those working with the classical idealization will. Thus, conflict can arise between reasoners who are working with different models of logical consequence.

However, Shapiro and Cook could say more about the actual modeling process whereby logics model natural language consequence in order to clearly satisfy the second desideratum. If a set of idealized models are merely applied to different parts of one complex physical system, they would not conflict with each other since they are simply describing different parts of the same system. So, if in modeling logical consequence different logics

merely focus in on different parts of logical consequence, as at least Shapiro intimates,²⁷ then genuine conflict would not arise on their view. However, if conflicting idealizations arise from the need to explain different sets of data about logical consequence in different ways, then it is plausible that the logic-as-model approach could generate genuine conflict between the different logics.

Does the logic-as-model account have a plausible response to the Priest-Read challenge? One answer potentially available to such an account would be that if one logic established a claim to be true, then the claim is true but different models of logical consequence are highlighting different aspects of the notion of logical consequence that we are interested in bringing out. So the idea is here that the conclusion is true, and what the logics differ about is simply whether it follows logically or only, contingently, say. It is not clear that this is an answer that Shapiro or Cook would offer. However, it seems like a reasonable enough response to the Priest-Read challenge for their view. The question, as with other responses to the Priest-Read objection considered, is whether such a response dissolves genuine tension and conflict between the logics. If classical logic, for instance, allows the most claims to be logically deduced of all competitors, and no other logic provides genuine conflict about what can be proved, then it is unclear whether any genuine conflict exists between the competing models.

The logic-as-model version is not trivially true. Logics are not unthinkingly regarded as models by most philosophers. Nor is there much of a risk of the logic-as-model approach

²⁷ For instance in the quotation mentioned earlier where he states “So there could be different logics that model different aspects of logical consequence (Shapiro 2011 p. 537).”

being overly similar to the obviously uninteresting pluralism of classical sentential and predicate logic. The models sanction conflicting sets of inferences.

How would such an account of logics as models fit with the norms that logical consequence imposes on belief forming practices? Presumably if we regard logics as models of logical consequence, one of the important aspects that the models ought to be sensitive to is that logical consequence imposes norms on belief forming practices. However, as with the other accounts this issue has not been adequately addressed in the literature. If there are two models of logical consequence what does that tell us about what to believe when considering a controversial inference from known-to-be-true premises to an uncertain conclusion? Is there a rational obligation in such circumstances to calibrate our belief in the conclusion with our belief in the premises? How can we understand the norms consequence imposes on belief when conflicting models of consequence are correct? These questions have been left unanswered by the logic-as-model view.

Does the logic-as-model view characterize several different logics in one language? Consider the object of the modeling. The models are trying to capture a natural language phenomenon presumably within English. The different models may isolate and ignore slightly different features of that phenomenon with that language. However, is it possible on this view for two reasoners to be using the same concept and make different logically valid inferences? One way that this might be possible is if different models can be used to capture different characteristics of the logical behaviour of the concept; so, one agent could be reasoning in accordance with one legitimate model, while another agent is reasoning in accordance with another even though they are reasoning about the same concept.

1.7 Contextual Pluralism

The final version of pluralism is one that is also raised in Shapiro's discussion of different ways of being a logical pluralist. It also happens to be the version of pluralism that I think is particularly interesting and will elaborate on further in subsequent chapters. Shapiro (2011) introduces this version of logical pluralism by considering the possibility that certain logical principles are borderline cases of logical truths. In fact he explains how a variety of different accounts of vagueness could be thought to motivate versions of logical pluralism if we consider certain logical principles such as *LEM* as borderline cases of logical principles. For instance, "perhaps the law of excluded middle is a borderline case of a logical truth. Or perhaps . . . *ex falso quodlibet* is a borderline case of a valid inference" (Shapiro 2011 pp. 542-543). There are a few different ways that regarding certain inference patterns as borderline logical-truths could generate a pluralism. An epistemist about vagueness (e.g. Williamson 1997) in regards to logical-truths would hold something to the effect that a borderline logical-truth has a clear extension but that we can't know what that extension is. When considering *LEM* that would mean that it either is a logical-truth or it is not, we just don't know which one. The epistemist could then regard the development of intuitionistic logic and classical logic as equally promising since, for all we can tell, either one of them may be correct.

Epistemicism is not the only way to motivate logical pluralism on the assumption that some inference patterns are borderline logical-truths. Another approach Shapiro considers is a contextualist view in which borderline inferences are valid in some contexts and not valid in others. According to Shapiro,

A contextualist holds that the extensions of vague predicates shift from context to context. . . . If Karl is borderline bald, then the sentence “Karl is bald” is true in some conversational contexts and false in others—even if we hold the denotation of “Karl” and the comparison of classes fixed. So, for logic, and continuing to assume that excluded middle is a borderline logical truth, the contextualist would hold that excluded middle is a logical truth in some conversational contexts, and not in others. Generally classical logic is correct in some contexts, and not in others. The same might go for intuitionistic logic, various relevance logics, second-order logic.²⁸ (Shapiro 2011 p. 543)

Aside these remarks above, Shapiro does not have much more to say about this particular route to logical pluralism. So, as it stands, it is quite difficult to judge how well this version of logical pluralism satisfies the desiderata of a sufficiently interesting logical pluralism. In the concluding chapter of the thesis I make a comprehensive argument that it does indeed satisfy the desiderata of a sufficiently interesting logical pluralism, but some of the material to be discussed in subsequent chapters will be required to make that case. For our present purposes I want to explain what should be appealing about this version of pluralism.

What I find interesting about this version of logical pluralism is that it can offer a particularly crisp account of how different correct logics conflict with each other. In particular, I think it enables logics to enter into conflict in one and the same reasoning situation. Two reasoners discussing one and the same problem could be using different logics correctly on this model. How is this possible? I think it is possible because contexts can share situations even though they are different contexts. Agents can be in the same situation but have divergent goals, perspectives, background experiences, audiences of relevance and, thus, be in different contexts. Different logics can be correct for these different contexts

²⁸ Contextualist accounts of vagueness can be found in Raffman 1994, 1996; Graff 2000, 2001; Shapiro 2006

operating in the same situation. Therefore, a contextualist version of pluralism can offer a very clear method of satisfying the second desideratum. Such a contextualism about logic can be understood as a kind of *situational pluralism*.

Situational pluralism is the view that more than one logic can be correct in the same situation. While such a view clearly satisfies the second desideratum, it also sounds almost like a nonsense claim. How can two conflicting inferences both be correct in the same situation? As you no doubt have gathered, what I think makes it possible for such a conflict to arise is that contexts with varying correct logics can share situations. This answer presents one way to develop a plausible situational pluralism in which there is a very sharp conflict between different correct logics. More will be said to defend the plausibility of such a version of pluralism in the next chapter. In particular a defence of the plausibility of such a pluralism would have to be provided that can address the Priest-Read challenge for logical pluralism without jeopardizing the sharp conflict that arises within this version of pluralism.

Of course there are other desiderata. I can only briefly sketch how well contextual pluralism satisfies the other components, but I can point to where some of the obstacles will be and how they will be addressed in subsequent chapters.

There is a pretty straightforward answer to the problem of how to explain the rationality of different positions on controversial inferences. Different agents are reasonable to infer or to withhold inferring in accordance with some controversial inference rule depending on the context they are operating within. If two agents S and S^* are operating in the same situation but two separate contexts C , in which *LEM* is correct, and C^* , in which *LEM* is not correct, then agent S is reasonable to infer in accordance with double-negation-

elimination, but agent S^* would not be reasonable to infer in accordance with that rule. Rather agent S^* would be reasonable to withhold any such inference.

I already explained that there is a very clear satisfaction of the second desideratum so we can now proceed to the third. Contextual pluralism is not trivially true. Indeed, as mentioned, it might strike many as intuitively implausible. Moreover, there is no danger that this version of pluralism resembles obviously uninteresting pluralisms that are clearly trivially true. The set of correct logics are not subsets of one logic nor are the models of the correct inferences all consistent with each other. Rather there are principles correct in certain logics that are regarded as explicitly wrongheaded from the perspective of other logics (at least from within certain contexts).

One area in which more details need to be provided will have to do with how this version of pluralism fits in with the norms that logical consequence imposes on belief formation. If different logics are correct in the same situation, what should an agent in that situation believe about claims that follow from true propositions in accordance with a controversial inference rule? I do think that this version of pluralism has a sensible answer to this problem that I will explicitly develop in chapter four. I defer my complete discussion of this issue to that chapter.

Finally this pluralism will be shown to clearly satisfy the no talking past each other desideratum. It will be possible for agents to be deliberating together in the same situation about the same concept while employing different logics. If the agents are in different contexts that share a situation, for example, such a scenario could arise. A model of how this takes place will be developed in Chapter Two and Chapter Three.

1.8 Conclusion

To conclude we have explained and compared several different accounts of pluralism found in the literature. In particular our comparison focused in on the issue of how interesting various accounts of logical pluralism are. The degree of interest for different versions of logical pluralism is an important topic since there are versions of the pluralist thesis that are obviously uninteresting. For instance, a pluralism of classical sentential and predicate logic is not an interesting pluralism. We isolated several components of an interesting version of pluralism by examining why various philosophers have considered Beall-Restall pluralism to be uninteresting and problematic. After discussing Beall-Restall pluralism and its critiques we examined alternative versions of logical pluralism that have been offered in place of Beall-Restall pluralism. We asked the question how well these versions satisfied the desiderata we extracted from the discussion of the virtues and deficiencies with Field's account of Carnapian pluralism and with Beall-Restall pluralism. Some of these versions of pluralism satisfied most of the components that make for an interesting pluralism. The desiderata that were not satisfied, it was noted, do not go unsatisfied in principle. That is to say, it is possible that them to be satisfied, but more details are needed. Finally I argued why I think a version of pluralism called logical contextualism is particularly interesting. I argued that it permits for very crisp and sharp conflicts between correct logics. The drawback of such a version of pluralism is that it arose from the possibility of several logics with conflicting sets of inferences being correct in the same situation. Such a situational brand of pluralism seems highly implausible and subject to refutation via the Priest-Read challenge.

In subsequent chapters I develop cases that aim to add greater credence and plausibility to such a version of logical pluralism. In particular in chapter two I will explain how a notion of “correctness of logic” can be developed whereby logics are correct relative to different contexts which share situations.

Chapter 2

What Does it Mean to Say that a Logic is Correct?

2.1 Introduction

Our overall task is to see what sense can be made of an interesting version of logical pluralism, and to examine some of the philosophical implications of such a view for certain issues in epistemology and argumentation theory. In the previous chapter we saw that an interesting version of the pluralist thesis would make out two or more logics correct in the same situation. One variant of such a situational pluralism that was discussed was logical contextualism. In this chapter I develop a logical contextualist account of the concept “correctness of a logic.” The contribution that this account of “correctness of a logic” will make to our overall task is twofold. First, it will result in a formulation of an intriguing variant of logical pluralism that is more subtle than any version of the pluralist thesis that has thus far been put on offer. Second, having a clear version of a contextualist notion of “correctness of a logic” will provide a precise variant of logical pluralism whose implications on the epistemology of disagreement and on the goals of argumentation we can examine in subsequent chapters.

I develop a conception of “correctness of a logic” that makes logic correct relative to the *contexts of inference*. In short, the view is that logical consequence varies with a contextual parameter;²⁹ the claim that “ p entails q ” and its cognates such as “ q is a logical

²⁹ The formulation here is simply an initial presentation of the basic idea and will be more precisely stated as we proceed.

consequence of p ” or “the argument from p to q is logically valid,” thus, are true in some contexts and false in others. Another way to understand the point is that certain inference schemes (such as double-negation elimination, disjunction-elimination, or *ex falso quodlibet* inferences) can represent inferences that are genuine logical validities and that are not genuine logical validities given different contexts.

As will become clear I make the case that certain *schematic concepts* can have *contextual saturations* that are *logically significant*. A schematic concept is one whose content involves a schematic term. A *schematic term* is a term that has at least two ways of being made precise. I say that a *schematic concept* is saturated when all its schematic terms have been made precise. A schematic concept can be said to be *disguisedly* schematic when it is not obvious that its content involves a schematic term. In such disguisedly schematic terms it may appear that its content is definite and does not involve an ambiguous term that can be made precise in different ways. A *contextual saturation* is a function which takes a context c and a schematic concept s and produces a saturation of c . That is, given some contexts and a schematic concept the contextual saturation “maps” the context and the schematic concept onto one of the saturations of the schematic concept. I say that a schematic concept has logically significant saturations when at least two of the concept’s saturations result in conflicting logics being correctly used for reasoning with the schematic concept in the different contexts.

In this chapter I use the concept of good art as an example of a schematic concept with logically significant contextual saturations. Whatever art is, it is unlikely to be a natural

property whose existence is independent of conscious observers. Rather it is a property that is dependent on the viewers of the art in some crucial respect. I thus adopt a conception of GOOD ART under which the truth-values of claims about the goodness of a piece of art depend on the responses and opinions of an audience. The term ‘audience’ is clearly one that can be made precise in different ways. The contexts in which someone might reason about the concept good art, I argue, can select for different relevant audiences. In other words, different contexts in which an agent may reason about the concept of good art saturate the schematic term ‘suitable audience’ differently. There are, thus, distinct contextual saturations of the concept of good art. Some of these saturations, I argue, result in different logics being correct for reasoning with GOOD ART. Different logics are correct given different contextual saturations because, as will be seen, *genuine logical consequence* ends up being a different relation given different logically significant contextual saturations.

Describing schematic concepts with logically significant contextual saturations is not the primary purpose of this chapter, however. Rather doing that is necessary conceptual groundwork that is required as part of my case that logics are correct relative to contexts. I develop my case for this claim by considering different accounts of “correctness of a logic.” First I consider an account of correctness of a logic that understands logics to be correct if and only if they capture all and only the genuinely logically valid inferences. I then consider several examples of how the set of genuine logical validities changes from one domain of discourse to another so that the set of propositions that are logical consequences in one domain are not in another. In order to explicitly note in the account of correctness of a logic the variation of genuine logical consequence from one domain to another I consider an

account of correctness of a logic that makes logics correct relative to domains of discourse. However, as further examples will illustrate the set of genuine logical validities varies even within domains of discourse. Two agents in the same domain of discourse can have different logics correct for them if they are operating in different contexts. Therefore, I argue that a better approach than making logic correct relative to domains of discourse is to make it correct relative to contexts. This account, it will be argued, can explain all the various cases that were problematic for the other accounts of correctness of a logic.

2.2 Capturing Genuine Logical Consequence

2.3 The Obvious Account

An advocate of an interesting version of the pluralist thesis faces a problem in articulating a notion of *correctness of a logic* that should be mentioned right at the outset of our discussion. However, before explaining this difficulty we must first mark a distinction between *logical consequence in a system* and *genuine logical consequence*. Genuine logical consequence is the concept of the relation *logically following from* as it is found in natural language. *Logical consequence in a system* is the *logically following from relation* as it is defined in some formal system. *Logically following from* is distinct from *following from*. For instance, one might say that the proposition that Smith is a bachelor *follows from* the proposition that “Smith is unmarried” or that the proposition that it will rain shortly *follows from* the proposition that there are large storm clouds brewing in the west. The *following from relation* that exists between these propositions is not the *logically following from relation*. The later example of the following from relation is probabilistic or inductive

following from. The truth of the premise gives probabilistic grounds for the truth of the conclusion. The former example of the following from relation is semantic and deductive; the meaning of the two propositions guarantees that if the premise of the inference is true, the conclusion is true too. When we speak of a proposition “logically following” from some other proposition(s) we are referring to examples such as “Smith is over 6ft, so someone is over 6ft” in which the proposition that someone is over 6ft *follows in virtue of its logical relationship* with the proposition that Smith is over 6ft.

Logicians construct, revise, and improve formal logics for a variety of different purposes, but one central philosophical aim is to represent and explicate the notion of genuine logical consequence (Sider 2010 pp. 6-9).³⁰ Accomplishing this aim involves logical consequence in a formal language correctly interpreting, or accurately representing (or some similar notion), genuine logical consequence. Recognizing that a central aim of formal logics is to represent genuine logical consequence it should be clear that one proposition being a logical consequence of some others in, for instance, intuitionistic, classical or relevance logic does not mean that the proposition is a genuine logical consequence of those propositions. After all, the behaviour of \rightarrow in classical logic, for instance, might not adequately represent the behaviour of any of our actual logical concepts.

Prima facie the aim of accurately representing genuine logical consequence suggests a particular account of correctness of a logic. I call the account suggested by this aim the *obvious account*. I choose this name because given the aim of accurately representing genuine logical consequence the account seems the natural approach. The obvious account

³⁰ Some other purposes of formal logic are, for instance, to study syntax, computer programming, or electrical circuitry.

holds that a logic is correct if and only if the logic is *extensionally identical* with genuine logical consequence. If all and only the genuinely valid arguments were translatable into valid arguments in a formal system F , then F would have a plausible case to make that it accurately represents genuine logical consequence. However, if there are genuinely valid arguments in English that could not be translated into valid arguments in F , or if genuinely invalid arguments could be translated into valid arguments in F , then that would clearly be a failure of F to accurately represent logical consequence. The obvious account can, thus, be expressed by the following statement where L is some formal logic,

(C1) L is correct if and only if logical consequence in L has the same extension as the genuinely valid inferences.

The obvious account poses a problem for any interesting pluralism about logical consequence that is worth taking note of. For any two conflicting logics L and L^* it would not be possible for both to be C1-correct. If the logics L and L^* are conflicting, as mentioned in Chapter One, they have different sets of valid inferences—they are not coextensive—and they will have the same level of expressive detail; that is, they are capable of capturing the same structural characteristics of propositions. For any two *conflicting* logics L and L^* there is an inference i that is either logically valid in L but not in L^* or, in the case where L is a subset of L^* and is logically valid in L^* but not in L . First, assume the case were i is L -valid. If L is C1-correct, then i is genuinely valid in addition to being L -valid. It follows then that L^* is C1-incorrect. The other possibility is that i is L^* -valid, but not L valid. This is the case if L is a subset of L^* but not equal to L^* . In this case if L is C1-correct, then i is not genuinely valid and, thus L^* captures an inference as valid that is not genuinely valid. In such

a circumstances L^* cannot also be C1-correct. If L^* is genuinely valid, then L does not capture the genuinely valid inference i and is, thus, not C1-correct. Thus, for any two conflicting logics, these logics cannot be both C1-correct. An interesting version of logical pluralism, in which more than one *conflicting* logic is correct is, therefore, not compatible with the standard of correctness articulated by (C1).

Is there an alternative to C1-correctness that is compatible with an interesting version of pluralism? I think so. It is important, however, not only that the notion of logical correctness be friendly to an interesting version of logical pluralism, but also that there are good reasons to support the preferred alternative to (C1). I, thus, also explain why I think my preferred account of logical correctness is the right one. The supportive reasons for an alternative to (C1) become clear by reflecting on key examples of genuine logical consequences that are problematic for the obvious account of correctness of a logic.

2.3.1 Domains of Discourse and Correctness of a Logic

Consider the following way we might reason about tables and chairs; it is not the case that there are not five chairs at that table, so there must be five chairs at the table. For the purposes of this discussion suppose the table is a banquet hall that has been mostly set up by the catering staff and the staff is doing a final check to determine if there are enough chairs at every table. It is known, or at least reasonably assumed, that the chairs have all been clearly placed at a specific table since this is not the first time the caterers have been through the room and they are in general pretty good at putting chairs clearly at tables. At this point the caterers are tasked to do one last sweep of the room to ensure that there are exactly five

chairs at every table (suppose they need to ensure that every guest will have a spot to sit). In this scenario the caterers could make logically valid inferences in accordance with the rule double-negation-elimination.³¹ Such an inference is logically valid since if its premise is true, its conclusion will be true too. The facts about tables and chairs in this instance determinately specify the truth or falsity of the statements composing the inference. In other words the statements “there are five chairs at the table” must be either true or false and cannot be both given facts about tables and chairs in this situation. Thus, if negations of such statements are understood as being true if the statements are false and false if statements are true, then if the statement “there are five chairs at the table” is false when its negation is true. Also, the negation of the negation of that statement is true if the negation of the statement is false. Thus, the statement itself is true when the negation of the negation is true. These facts about the object and how the objects determinately specify the truth of the relevant statements in this inference explains why the paradigmatically classical inference of double-negation elimination is correct in this case.

However, in some circumstance it is at least plausible that using classical reasoning will lead us astray. One example is reasoning about non-exact boundaries such as the border of a country (which is presumably not specified to an exact point of space but more likely to a meter or so). Consider the Torontonion family the Smiths taking a road trip to the Grand Canyon. As the Smiths pass over the Ambassador Bridge into Detroit Michigan from

³¹ The reason to consider the background situation in the way I have done here where caterers have set up an even at a banquet hall is in order is to rule out a cases where a chair is a few feet away from a table and angled halfway toward another table nearby. Such a situation may suggest that there is vagueness in the concept BEING AT, at least when that concept applies to certain situations of chairs being at tables.

Windsor Ontario Ms. Smith notices that her car is directly to the east of the marker that separates Canada from the United States. Ms. Smith reasons to the effect that “it’s not really the case that her family is not in Canada, so her family must be in Canada.” Caution in making such an inference would have served Ms. Smith well since being on the border between Canada and the United States involves neither being in nor not being in the geographical region of either of those countries. Thus, it does not follow from her being on the border that she is not in Canada or that she is in Canada. The facts do not determinately specify the truth values for such sentences. Thus, the classical inference double-negation elimination does not hold when reasoning in the way Ms. Smith does. Some three valued logic, or intuitionistic logic, is plausibly more appropriate for the purpose of reasoning about whether or not one is inside or outside some place with a vague border.³²

Notice that in the first example of reasoning about objects with clear boundaries we evaluated classical reasoning favourably, but when classical reasoning was used to make inferences about vague boundaries we evaluated it unfavourably. The reason for this discrepancy is that the facts about these situations differ in important ways. Vague boundaries do not determinately specify the truth or falsity of sentences about them. However, familiar objects of normal size will determinately specify the truth or falsity of statements that refer to them. This difference leads to the appropriateness of different logics in these varying situations. Thus, while classical logic is generally correct in situations in

³² For current purposes I do not want to get too deep into discussions over whether a multi-valued logic, supervaluationist, or contextualist approach to vagueness is superior (see Sorensen 2012). The point to be garnered from this example is that there are situations in which it is plausible that some non-classical reasoning is appropriate as opposed to classical logic.

which we are reasoning about objects with clear boundaries, it is plausibly not correct when we are reasoning about vague boundaries.

Another similar example of how one logic can be appropriate while reasoning about one sort of object but not for others can be found in Hillary Putnam's (1968) view that reasoning about small sub-atomic particles requires dropping the distributive law. He calls the logic that results from dropping the distributive law quantum logic, contending that it is the correct logic to use for reasoning about subatomic particles. It is not required, however, that the distributive law must be universally abandoned. It would be entirely cogent for the distributive law to be dropped when reasoning about sub-atomic particles and yet think it is acceptable for use when reasoning about normal sized objects.

A final example to consider in this vein is legal reasoning about case law where judgments are occasionally contradictory. It is very plausible that some instances of legal reasoning about, for instance, contradictory precedent does not involve the classical principle of *ex falso quodlibet*. Indeed Graham Priest argues as much in Priest (2006 Chapter 13). Presence of logically inconsistent precedent does not provide a judge reasonable grounds to make any judgment she likes about some case. So, in a court case, when arguing about countervailing precedent, it is plausible that instead of classical logic some form of paraconsistent logic is correct.

Domains of discourse are typically individuated by the types of objects that are being reasoned about. For instance, discourse about the comic can be individuated on the basis that comedic discourse involves reasoning about jokes and other comedic (or attempted comedic) displays from humours storylines to humorous facial expressions and body gesticulations.

Arithmetic can be individuated as a domain of discourse based on its being about numbers, while biology can be individuated as a domain of discourse on the basis of its being about living things. The idea here is that reasoning about a certain group of objects is what individuates domains of discourse. The ability to so individuate domains of discourse based on the objects being reasoned about may be thought to suggest the following account of correctness of a logic I call *discourse relative correctness*.

(C2) A logic L is correct for reasoning in a domain of discourse D if and only if L has the same extension as genuinely valid inferences in D .

Upon reflection on further examples, however, it will become clear that there are counterexamples to (C2) in the same way we discussed counterexamples to (C1). What we will see is that the class of objects being reasoned about is not sufficient to decide the question of correctness between two conflicting logics. I consider an example in the next section of this chapter that demonstrates this point and I will consider further examples in the following chapter. .

2.3 A Problem for Domain Relative Pluralism

Consider the following case I call ART SHOPPING that poses a challenge to (C2) correctness. In this example there are two agents, one named Ana and the other named Jen, each with different background characteristics.

ANA'S BACKGROUND: Ana is looking to purchase a painting to hang on an empty wall at her house. As with most people looking for art, Ana is looking for good art. Ana has no particular expertise with selecting good art. She has only her eyes, her awareness

of the qualities she finds tasteful and not tasteful, and her impressions about the qualities that people with normal education, some appropriate exposure to art, and a functioning visual apparatus would find tasteful. The audience who would be likely to view Ana's art consists mainly of people who have similar experiences with selecting good art as Ana. That is, they have the capacity to inspect the visual structure, composition of shapes, perspective, color scheme, shading and so forth of a painting. While differences among her audience's tastes surely exist a painting's manifestation of perspective, color scheme, detailed shape composition, shading and so forth are the features that make art "good art" for such an audience. Similarly if a painting is found to lack such a quality on visual inspection it is not the case that the painting is good art.

JEN'S BACKGROUND: Jen is an experienced art curator for a well-known world class art gallery. She has a PhD in art history, an impressive list of publications, and is a well-respected scholar in her field. She also happens to be looking for good art. But her purpose is to display the painting in the gallery she is currently curating. It is professionally important that her selection satisfy an audience of very high brow art aficionados. These art aficionados do not only examine a painting's ostensive visual characteristics. Certainly such visual characteristics are essential to a painting's being good, but they are not sufficient for it to be good. It is also necessary that the painting be conceptually original. Many paintings that demonstrate the aesthetic qualities focused on by Ana's audience could be derivative in that the techniques and concepts used to produce them were developed by some other artist. Thus such paintings are not original and make no important contribution to art. For Jen's audience it is not a straightforward matter as to whether visually striking paintings are good

art. Paintings with striking visual qualities are good art if they also are conceptually original, but they may also be derivative or make no original contribution. Moreover, paintings that are not good art may be not good because it is indeterminate for suitable members of Jen's context whether the painting satisfies appropriate standards of conceptual originality, not only because it is clear for suitable members of this audience that the art is not conceptually original. Jen would not want to spend the gallery's money and risk highly critical reviews if it is only unclear as to whether a painting is good art. It must be crystal clear that the work makes an original contribution for it to be considered good art.

Now that we are familiar with the relevant background characteristics of Ana and Jen it will be possible to describe the example.

ART SHOPPING: Ana, her husband Charles and Jen are out shopping for paintings in a well-known antique shop in London, UK. Ana and her husband have spread out and are looking at different paintings. Ana walks over to some paintings her husband was just looking at. As she passes him she asks him if he saw anything good. He says he did not. However, Ana sees one painting that she knows her husband thought was not good that she finds particularly interesting. Jen happens to be looking at the same piece of art at the same time. Ana and Jen begin a discussion over the painting. They find that they agree about a wide variety of important aesthetic qualities that the painting possesses. They agree that the painting's shading is skillful; that its shapes are rich, detailed and varied; that its colours are beautiful. After discussing and agreeing that the painting possesses a variety of aesthetic qualities that can be clearly appreciated by a direct visual examination of the painting Jen inspects the signature at the bottom of the painting to determine the identity of the artist.

Once learning the artist's identity Jen's comprehensive knowledge of artists and of the historical development of art techniques allows her to quickly determine a few facts about the painting. In particular she knows that it is possible that the painting is good art. That is, it is possible that she could come to know the painting as good art. However, she does not know that the painting is good art. The artist, say, studied with a master who produced some very original and important paintings. However, it has not been shown that the artist herself produced anything original. Jen notices that there are some potentially unique features of the painting; but, more research and conferring with other experts would be required to determine if this art is in fact good art. Jen does not share this with Ana. Rather she has simply deduced the artist's identity in her mind after her inspection of the name on the painting. After their preliminary discussion Ana and Jen have the following dialogue,

Ana: My husband is wrong that this painting isn't good art.

Jen: Quite right, it's clearly mistaken to think that this painting is not good.

Ana: Absolutely! I fully agree. So, the painting must be good art then.

Jen: Well, it's not so clear that the painting is good art either. I am reluctant to go along with that inference.

The inference under dispute is the following,

(INF 1)

1. It is not the case that the painting isn't good art.
2. So, the painting is good art.

My suggestion is that Ana is right to endorse this inference while Jen is right not to endorse it. However, the inference is classically valid and both Ana and Jen are in agreement with the

inference's premise. Ana and Jen, therefore, differ over the correctness of classical logic, or at least over the correctness of the characteristically classical inference of double-negation-elimination for the evaluation of this inference about the painting. Moreover, I am suggesting that, intuitively at least, both Ana and Jen are logically correct in their assessment of the inference. However, the inference is made about the same object. Ana and Jen are not reasoning about different objects. What are we to make of such a case?

2.3.2 Features of the ART SHOPPING Example

There are three particularly important features of the ART SHOPPING example that it will be worth discussing in order to clearly bring out the example's implications. The first feature to clarify is the different roles that negation plays in Ana's and in Jen's reasoning. The second feature is the use of the concept GOOD ART in ART SHOPPING. What is the role of that concept for Ana and Jen respectively? Our discussion of this concept will lead us through a necessary detour into a discussion of the role of context in explaining why Ana is logically correct to infer in accordance with double-negation-elimination while Jen is logically correct to withhold making such an inference. Third, it is important to recognize that there are correct judgments about the truth of the proposition that the painting is good art for both Ana and Jen. In other words, the issue of the truth or falsity of the painting's goodness is not a subjective matter.

First, what is the role of negation for Ana and Jen respectively? Consider Jen's version of the claim, "It's clearly not the case that the painting isn't good art." As was briefly mentioned in the discussion of Jen's background the negation of the proposition that p is

good art in Jen's reasoning leaves open a couple of possibilities. First, it leaves open the possibility that the proposition that p is good art is false. Second, it leaves open the possibility that the truth value of the proposition that p is good art is indeterminate (or, if one countenances multiple truth values, that it has some truth value other than True or False). In the second possibility there is no method or evidence, given some specified state of information, that could satisfactorily establish for suitable members of Jen's audience that the proposition that p is good art is true, nor is there any such method or evidence that could establish that p is good art is false. In the context that Jen is operating within, as will be shortly elaborated upon when we discuss the meaning of GOOD ART, some work of art is good only when a suitable class of art experts ought to regard the art as possessing certain desirable aesthetic qualities. If it is not possible for experts to come to a correct decision about the conceptual originality of a painting p (because of lack of evidence, lack of clarity of evidence, or perhaps lack of clarity as to how accepted standards of evaluation ought to apply in the given case), then it is indeterminate whether the proposition that p is good art is true or false. In other words negation, as used by Jen in this context, does not decide between cases in which p is good art is false and cases in which it is whether p is good art is true or false. What does negating the negation of p is good art mean given the meaning of negation just discussed? The double negation of the proposition that p is good art does not decide between p is good art being true and its being neither true nor false. Indeed, it is precisely the lesson of the indeterminacy of truth-value of the proposition that p is good art that the negation of this claim is not true and so its double negation can be without thereby

transforming the original claim into a truth. Therefore, double-negation elimination is not in general logically valid in Jen's reasoning in ART SHOPPING.³³

In Ana's reasoning in ART SHOPPING negations have a more straightforward meaning. Lacking any one of the qualities that make a painting visually striking will entail that the painting is not good art in Ana's context. However, if the painting possesses all of the necessary visual qualities, then the painting is good art. Negating the proposition that p is good art for Ana entails that it is not the case that p does has all the necessary aesthetic qualities being good art, and thus that p is good art is false. Negating the negation of the proposition that p is good art amounts to negating the claim that p does not possess all of the readily visually identifiable qualities that her audience ought to regard as constituting a good piece of art. Thus, if the negation of the negation of the proposition that p is good art is true, the proposition that p is good art is true too. Thus, in Ana's context negation operates in a way consistent with double-negation elimination.

The second feature of ART SHOPPING that requires further elaboration is the use of the concept GOOD ART? What is the meaning of that concept in ART SHOPPING? The concept of good art is not a "natural" property. Rather it involves the considered judgment of suitable audiences. Good art does not exist independently, it strikes me, from the audiences and observers who assess and evaluate a piece of art's goodness. Without the audience the art

³³Jen's use of negation is modeled by most three valued semantics for negation. Of course, double negation elimination is also rejected in intuitionistic logic, and Jen's use of this negation is aptly modeled in those versions of semantics for intuitionistic logic that think of truth in terms of having conclusive evidence for a claim. In these semantics, a negation is true when one has conclusive evidence that no such conclusive evidence will be found--i.e., if one has a refutation. Clearly this leaves room for propositions to be neither true nor to have true negations. But showing that a claim is irrefutable is not the same as giving conclusive evidence that it is true. See Bell, DeVidi and Solomon (2001 pp. 185-203) for a clear statement of a formal semantics that encodes these insights.

is presumably just another object. It is human subjects who imbued art with aesthetic significance. I take the concept of good art employed by Ana and Jen to have something like the following content,

(GAG) A painting is good art if and only if it ought to be appreciated by a *relevant audience* for its *aesthetic qualities*.³⁴

While both Ana and Jen are employing the same concept, the concept is schematic in the sense that it involves terms that can be specified in different ways. The terms that have different ways of being made precise in GAG are ‘relevant audience’ and ‘aesthetic qualities.’ In Ana’s case the relevant audience are people who can reasonably thought to be “of good taste” from Ana’s relatively normal experience with art. So, for instance the relevant audience in her context would be people of average artistic education, who are capable reasoners, who have functioning visual apparatuses, and are susceptible to experience a fairly normal range of affective responses to art. The relevant audience in Jen’s audience would consist of art aficionados of all stripes such as art critics, art collectors, artists, other art curators, and people with a high degree of interest and experience with art. These divergent audiences can be thought of as aspects of the different contexts in which Ana and Jen are operating. The different contexts saturate the concept of good art in different ways. That is, the contexts select varying ways of making the term ‘relevant audience’ precise in GAG. In turn, given that the aesthetic qualities that are of significance to the

³⁴ There are a variety of different audience-based accounts of art. Although not uncontested, even those who challenge audience-based accounts of art, such as Zangwill (1990), recognize that “almost all theories of art that have ever been proposed make some kind of essential reference to an audience” (Zangwill p. 315, 1990). For our purposes here it is not necessary to delve into detail over these different views of art or the goodness of art. All that is required is that (GAG) be a plausible description of a pre-theoretic conception of aesthetic goodness that persons reasoning with that concept in everyday scenarios might be thought to be using. I think (GAG) satisfies that standard.

evaluation of good art vary for the different audiences, the contexts also select for divergent aesthetic qualities as warranting appreciation in Ana and Jen's different contexts. As suggested in the introduction, this phenomenon of contexts saturating schematic concepts can be understood as a partial function in which contexts and a schematic concept get mapped to different specifications of the schematic concept. It will be handy to call this partial function a *contextual saturation*.

Our discussion of the meaning of the concept of good art raises an important issue about the nature of contexts. The concept of good art, it was explained, can be saturated differently in different contexts. But what is a context? It is possible to gain an understanding what I mean by context through contrasting the concept of context to the everyday concept of a situation. While I use context as something of a term of art, it will be helpful to contrast my stipulative account of context with the concept of a situation and the concept of a domain of discourse. This contrast will help clarify how I am using the term 'context' and why this term ought not to be equated with the concept SITUATION or the concept DOMAIN OF DISCOURSE.

Ana and Jen are correctly characterized as being in the same situation. However, even though they share a situation they are operating in different contexts. In this particular case their contexts differ because different background audiences are relevant to the evaluation of good art for Ana and Jen respectively. Some may object to such a use of the notion of context. Context, such an objector might assert, is to be identified with a situation. After all, doesn't the situation involve Ana's and Jen's audience in some important way? In my mind a more accurate characterization of the everyday notion of a situation involves four elements (i) a set of defined regions of space-time, (ii) an ordered set of objects relevant in the set of

defined regions of space-time, (iii) an ordered set of events that occur in the set of defined regions of space-time and (iv) a set of agents present in the set of defined regions of space-time.³⁵ This definition of a situation permits a wide range of things to count as situations. Some examples of situations are the following: Ana, Jen and her husband shopping for art in an antique store, the Smiths crossing the Canadian-American boarder, Jimi Hendrix playing the *Star Spangle Banner* at Woodstock 1969, Paul and Dean hiking in the Rocky Mountains, Canadian MPs asking questions during question period in the Canadian House of Commons, Sharon applying for academic jobs just after completing her PhD. This definition also excludes certain things, however. For instance, the explosion of the star Betelgeuse (presuming agents are not around when that takes place), the formation of the planet earth, a falling tree in a forest with no one around to observe it. We do not refer to the explosion of Betelgeuse as a situation (perhaps as an event), but we would describe the ART SHOPPING example as a situation in which Ana and Jen find themselves. Without agents all there would be is a collection of events and objects in space time which is not sufficient for there to be a situation.

Not only are Ana and Jen in the same situation they are also in the same domain of discourse. Given that domains of discourse are individuated by the objects that are being discussed, and given that Ana and Jen are both discussing the goodness of one and the same painting in ART SHOPPING, Ana and Jen are operating in the same domain of discourse.

³⁵Both the set of objects and the set of events require some kind of ordering. If the events occur in a different order or the objects are arranged differently, then the situation will be different. More details for a complete definition would be required such as the type of ordering and so forth. However, those questions are not necessary to explore at this point and, as far as I can tell at least, nothing of importance in my discussion here turns on these details of this definition.

Since Ana and Jen are operating in the same situation and the same domain of discourse neither of these concepts will be helpful in explaining why (INF. 1) is valid for Ana but not for Jen. The importantly different factor for Ana and Jen that can explain the variation in the validity of (INF. 1), I propose, is the different relevant audiences that are determined by Ana and Jen's different contexts respectively. The different audiences saturate the concept of good art differently for Ana and Jen in such a fashion that different inferences are valid for Ana and Jen.

But, someone may wonder, "What is a context exactly?" I introduce *context* as a parameter required to explain the logical correctness of Ana and Jen's differing assessment of (INF. 1). Clearly, then, whatever else contexts are they are the sort of thing that can determine a relevant audience—at least in the minimal sense that they can, given schematic concept in which 'audience' is an unsaturated component, determine what the extension of 'audience' is in that context. In the next chapter when we explore other examples of concepts with logically significant contextual saturations we will expand this notion of context in various ways. There are other factors—factors that are also determined by an agent's context—aside a suitable audience that can explain why agents are correct to differ over the logical validity of some inference.³⁶

³⁶ An agent's purposes are one example of a factor that can explain the differences over the logical validity of some inference that can be determined by context. Indeed someone may wonder if purposes are relevant to the ART SHOPPING case as well. Purposes may come into play in the sense that they have a role in the contextual determination of a suitable audience. Ana's purpose for finding a painting to hang on her house walls and Jen's purpose of finding one to hang in an art gallery are clearly different purposes and are part of the context that determines the suitable audiences for each of them. Presumably other factors are also part of this context such as their art relevant education and experiences, their visual capacities, their understanding of their audience, and so forth. All of these presumably play a role in the determination of the relevant audience in this circumstance. The point is that in future examples we will see cases in which the purposes of

This expansion of the notion of context makes clear why it is important to employ the concept of a context as opposed to simply the concept of an audience in order to explain why inferences like (INF. 1) can be valid for some agents but not for others. Simply using the concept of an audience to explain differences over (INF. 1) would lack sufficient generality since in other examples of concepts with schematic terms that have logically significant alternative saturations it is not the case that they are saturated by a suitable audience but by some other relevant factor. Therefore, I regard context as the determiner of factors that explain why a saturation of a schematic concept is logically significant; that context *sets* factors that explains how the same inference is valid in one saturation but not in another. Note that one such factor could be the objects the agent is reasoning about. The same inference may be valid when reasoning about one object but not another as illustrated in 2.3 above.³⁷ Thus, in addition to determining an agent's purposes and a suitable audience a context can determine the objects that are being reasoned about.³⁸ It is important to leave the concept of context open since I am not proposing to give an exhaustive account of all the factors that can generate logically significant saturations of schematic concepts. Other factors not considered in this thesis may very well produce such saturations. Thus, while a complete

agents more directly factor into the explanation for why an inference is logically valid for one agent in one context, but not for a different agent in a different context.

³⁷ Note that the fact that two agents reasoning about different objects can imply that the agents are operating in different contexts. However, it does not follow that contexts and situations are always mutually exclusive. Contexts can share some components but differ in others. So, for instance, a context could determine the same situation, but differ in other elements that are not part of the situation such as audience or purposes.

³⁸ This is actually a fairly familiar idea. If someone says "everyone is over 6 feet" while watching a basketball game, the context clearly determines that the objects being quantified over are the basketball players and not the audience, let alone everyone in the world. Here the context is determining the class of objects that are being reasoned about. Some such determination may be logically significant. For instance if context determined that mathematical objects as opposed to everyday normal sized objects were being discussed, constructivists about mathematics may insist that we ought to be using some constructive logic while reasoning about the mathematical objects at least.

account of context will elude me in this thesis we can understand context as what sets factors that explain how one particular inference is logically valid for one agent but not for another. The present point to note is that context differs from the situation or the domain of discourse. The grounds for positing this difference is that neither a situation nor the domain of discourse can adequately explain why Ana and Jen differ over (INF. 1) while context can explain this difference.

The phenomenon of contextual saturation is not unknown in logic and the philosophy of language. The sort of saturation I am describing in ART SHOPPING, in a sense, is the reverse of the standard analysis of terms such as ‘and’ and ‘but.’ As is taught in introductory logic classes these terms have the same logical analysis. So, in other words different words end up having identical logical analyses. In ART SHOPPING the same term ‘good art’ has at least two different logical analyses.

What is going on in the ART SHOPPING example can be illuminated by considering how sentence meaning can diverge from the meaning of utterances (by which I mean sentences in contexts) Since at least Grice’s (1989 pp. 22-57) analysis of conversational implicatures it has been widely recognized that the meaning of an utterance can differ significantly from the meaning of the sentences that speakers utter.³⁹ Consider the following example of an implicature from François Recanati; the sentence “I am French” would in most cases have a clear meaning as identifying the speaker of the sentence as a member of the French nationality.⁴⁰ However, if someone utters that sentence in response to the question

³⁹ And perhaps earlier identifications of this difference between conventional and speaker meaning can be tracked back to the works of Ludwig Wittgenstein and J.L Austin.

⁴⁰It is also possible to imagine that it picks out the speaker with the name French.

“Can you cook” the context in which the utterance is being made modulates the meaning in various ways to create the implicature that one is indeed a skillful chef (Recanati 2004). However, there are other ways, aside implicatures, that the meaning of utterances is thought to diverge from the meaning of sentences. David Kaplan’s semantics for indexicals and demonstratives (1989) regards sentences with indexicals or demonstratives as not fully propositional until they are supplemented with contextual information. On Kaplan’s analysis sentences that involve indexicals, such as the sentence “I’m hungry,” have a conventional element to their meaning that gets further supplemented by contextual information such as a speaker and a time and place of utterance. Both the conventional meaning of the sentence and the context are required in order to provide specific truth-evaluable content in the case of indexicals and demonstratives.

Other examples that are commonly used to demonstrate that a sentences’ meaning differs from the proposition the sentence is expressing are cases of what is sometimes called semantically under-specified expressions. Consider the expression “John’s car.” Recanati explains, “This phrase refers to a car bearing a certain relation R to John, which relation is determined in context, without being linguistically specified” (Recanati 2007 p. 2). So, context could determine R as the car that John purchased, or as the car of his dreams. The determination of R depends on the context in which the expression “John’s car” is made. There are even global versions of contextualism (typically called radical contextualism or radical pragmatics) about meaning (Searle 1978, 1980, Travis 1996, 2008). Global contextualists hold that sentence meaning never determines truth-conditions. Rather in addition to the meaning of words truth also depends on “the way the world is, and further

factors: aspects of the circumstances in which words are produced” (Travis 2008 p. 96). For current purposes I neither need to endorse nor do I need to disavow this sort of global contextualism (though I will need to return to this matter for other purposes in Chapter Four). The present point is simply to motivate a distinction between the meaning of sentences and the meaning sentences in contexts (i.e. utterances): it is to illustrate how context can supplement the meaning of a concept as it is found in a sentence.

One might wonder, “What is the difference between logically significant contextual saturations and the examples just discussed?” Contextual supplementation of a sentence that contains a SCLSCS *can* produce different logical behaviours of an utterance of that sentence from one context to the next. In the examples discussed in the previous paragraph the meaning and truth of the utterances varied from context to context, not their logic. In ART SHOPPING the logic varies in addition to the truth of the utterance.⁴¹ So, to take this back to our discussion of the ART SHOPPING case: utterances of the sentence “*p* is good art” have different logical analyses depending on the context in which such an utterance is made.

The third characteristic of ART SHOPPING that is important to discuss is that the proposition that Ana and Jen are disputing—the proposition that *p* is good—is a proposition that can be true or false. The account outlined here does not lead to a sort of subjectivism where it is up to Ana and Jen respectively whether or not the painting is good art. Ana and

⁴¹ Note that I have not committed myself to the view that sentences in general or the particular sentence “*p* is good art” does not have context independent truth-conditions. What I have committed myself to is that the truth of utterances of “*p* is good art” varies between certain contexts of utterance. For instance, what I have claimed about expressions of the form “*p* is good art” is compatible with the truth-conditions of that sentence being captured by the disquotational schema “‘*p* is good art’ is true iff *p* is good art.” However, satisfaction of the right hand side of the biconditional would occur in some contexts and not occur in others. Montminy (2010) argues that, “sentences of the form ‘*a* is *F*,’ where *F* is a comparative adjective, are semantically incomplete” (Montminy 2010 p. 328). The sentence “*p* is good art” is one example of such a sentence and could have different understandings given different contexts on this view.

Jen could be wrong about whether the painting is good art. Indeed in Ana's context if she is reluctant to assert that the painting is good art, then she is mistaken just as Jen would be if she asserted that the painting is good art. While the truth-value of the claim about the painting differs for Ana and Jen's differing contexts it is not a subjective matter whether the painting is good or bad. There are facts about the different contexts that determine the truth-value of the proposition that the painting is good art in the different contexts.

2.4 Logical Contextualism

In order to accommodate all of the above implications of ART SHOPPING I propose the following account of correctness of a logic,

(C3) A logic L is correct in a context C if and only if L has the same extension as genuine logical consequence in C .

This account of logical contextualism is supported by the first feature of the ART SHOPPING example discussed in Sec. 2.31. ART SHOPPING provided an example of how correct uses of negation can vary with context. In Ana's context the correct use of negation was consistent with classical negation, while in Jen's context the correct use of negation is consistent with an intuitionistic or three-valued negation. The different correct uses of negation make valid inferences in Ana's context that are not valid in Jen's. In particular it makes double-negation-elimination valid in Ana's context but not Jen's—an inference pattern that is paradigmatic of classical logic.

Reflecting on the second feature of logical contextualism described above it is also clear that Logical contextualism can be described as a sort of situational pluralism about logic; a variety of pluralism that, as we saw in Chapter One, is *prima facie* interesting. Logical contextualism is a variety of situational pluralism, as can be seen from ART SHOPPING, because different contexts can be operative in the same situation. If two agents are in the same situation but operating in different contexts and the agents are discussing a concept that can be saturated in different logically significant ways by their different contexts, then there can be two correct logics for the same situation.

However, some may regard this as a weak and uninteresting pluralism even though it results in a situational pluralism. There are a few considerations that may motivate this criticism. First the example uses the concept of good art which is a taste concept. If the scope of the pluralism that arises from logical contextualism is restricted to taste concepts, then the pluralism would be fairly limited. The answer to this problem will primarily be found in the next chapter in which I offer several other examples of concepts with logically significant contextual saturations. These examples will have the effect of broadening the pluralism that is suggested by (C3). Another problem that some may think arises because of the use of taste concepts like good art is that these concepts are subjective. People are entitled to form whatever views they wish about good art. However, the concept of good art as used in Ana and Jen, as we noted when discussing the third feature of the ART SHOPPING example, is not subjective. Ana and Jen can make correct and incorrect judgments about the goodness of art in their respective contexts, they can make mistakes in their evaluations, and the utterances about whether a piece of art is good or not in their context are true or false. I think

that this is a plausible characterization of an ordinary usage of the concept good art. While some may invoke the expression “there is no disputing taste,” it seems clear to me that we often not only dispute taste but use a variety of standards in our criticisms of judgments of taste, and some of our arguments about judgments of taste are better than others. However, for one who remains suspicious, in spite of what I have just said, that taste concepts are overly subjective in character there are two points that should bolster my case. As mentioned there will be non-taste based examples of concepts with logically significant contextual saturations. Second, the analysis of good art can be applied to what are often called *response* or judgment-dependent concepts of which the concept good art is, in my view, a good example. However, there is plausibly a fairly large class of judgment-dependent concepts. In the next chapter I develop a generalized version of the analysis of the concept of good art that can be extended to any judgment dependent concept. This analysis along with the additional examples should address these sorts of concerns that may arise for someone considering the ART SHOPPING example. Finally someone may regard the pluralism that arises through a consideration of (C3) as weak on the grounds that it only leads to pluralism between two logics. In response to this criticism I think that the example can be extended so that it also involves pluralism with relevance logic.

Some paintings, or at least some works of art, may be legitimately regarded by certain fragments of the art critic community as both conceptually original and not conceptually original. Consider, for instance, Andy Warhol’s *Campbell’s Soup Cans*. These pieces of art are 32 mostly realistic series of depictions of Campbell’s Soup cans. These works of art seem fairly run-of-the-mill and almost as unoriginal as art can be. It is nothing more than a simple

representation of something that was, when the art was produced, likely to be found in almost any American and Canadian kitchen. One can easily imagine one's grandmother or grandfather, or even a young child, making a painting of this sort of typical everyday objects. The art is also highly original, a key development in the pop art movement of the 60s and 70s that Warhol led. It generated heated controversy about the very nature of art itself and what we can expect from it. Taking this into consideration, these works of art seem highly conceptually original. Presumably most art aficionados who hold that conceptual originality is a core quality needed for aesthetic goodness who also hold that Warhol's *Campbell's Soup Cans* are both conceptually original and not conceptually original would not think that absolutely anything follows from their claims about Warhol's art. In other words, they are not going to subscribe to classical rule *ex falso quodlibet* in the context of evaluating *Campbell's Soup Cans*. Classically the following inference is valid,

(INF. 2)

1. Warhol's *Campbell's Soup Cans* are good art.
2. It is not the case that Warhol's *Campbell's Soup Cans* are good art.
3. Therefore, Warhol is a Walrus.

Why do classical (and intuitionistic) logicians accept such reasoning? Because there are no situations in which the contradictory set of premises are all true, there is no possibility for all the premises to be true and the conclusion to be false. So, it is not possible for 1 and 2 in (INF 2.) to be simultaneously true for Ana if she were to be evaluating one of Warhol's *Campbell's Soup Cans* and, thus, such an inference would be valid in her context. Given that the criteria for good art relevant to her context are clearly identifiable by visual inspection to

uncover that one of those criteria was both present and was not present would be absurd and, thus, from that context, the principle of *ex falso quodlibet* is appropriate. In other words, arguments about good art such as “*p* is good art and it is not the case that *p* is good art, so snakes can dance” are valid from Ana’s context. However, if Jen were a critique whose context permitted some paintings to be both conceptually original and not conceptually original without contradiction, then (INF. 2) would not be valid in her context. Therefore, it seems that in addition to a pluralism of intuitionistic logic (or perhaps some multi-valued logic) and classical logic we can add relevant logic to the mix. More precisely, the correct logics in two of these contexts will involve rejecting classically valid patterns of inference that intuitionistic and relevant logics are best known for rejecting.

It might appear that the pluralism that arises here is one between classical logic and some version of a relevant intuitionistic logic and, thus, the pluralism is still relatively weak in the sense that it is only between two different logics. Strict intuitionistic logicians accept *ex falso quodlibet* and, thus, if Jen’s context determines that that principle is not valid, then intuitionistic logic must not be correct for that context. After all, intuitionistic logic would not share its extension with genuine logical consequence in Jen’s context since genuine logical consequence in Jen’s context would not make any inferences in accordance with *ex falso quodlibet*.

One way to respond to this problem would be to modify the example further. Suppose that Ana was also looking to show a painting to well informed art aficionados and that she has been appropriately educated about the conventions involving artistic evaluation in high-brow audiences. However, for the fragment of the art critic audience suitable to her context

no painting is both conceptually original and not conceptually original. For this audience it is not possible to determine for every painting whether it is conceptually original or not, however, this does not mean that there are both conceptually original and not conceptually original paintings. Such proclamations are incoherent for Ana's modified audience.

To further increase the plausibility of this sort of situation consider how elements of the art community could disagree over whether it is possible for a painting to be both good art and not good art. The more orthodox segment of the community may think that such proclamations are nonsense, even while the more progressive segment thinks that such a state of affairs is entirely possible (similar to how some philosophers may contend that contradictions in the law or in mathematics cannot be true while dialetheists such as Graham Priest (2006) argue that contradictions in such places can be true). If the context in which Ana is operating in determines a more orthodox audience, then *ex falso quodlibet* would be a perfectly acceptable way for Ana to reason about the aesthetic goodness or lack thereof of paintings. Thus, in Ana's modified context, relevance logic would not be correct since it would not share its extension with genuine logical consequence in that context. However, it is also worth noting that in Ana's modified context qualities such as conceptual originality are still required for a painting to be good art. These sorts of qualities are often neither clearly exhibited nor not exhibited by a painting and, thus, classical inferences such as double-negation elimination are not correct in Ana's modified context. Therefore, inferences correct in Ana's modified context are compatible with simple intuitionistic logic, or perhaps a three-valued logic, and not compatible with an intuitionistic (or three valued) relevant logic. If we want to even further extend the example we could imagine introducing a new person to the

situation who has the same traits as Ana did in the original example and thus have a pluralism in which inferences compatible with classical logic are valid in the third person's context, inferences valid in intuitionistic (or three-valued) logic would be valid in Ana's modified context, and inferences valid in some relevant intuitionistic logic would be valid in Jen's context.

It is possible, thus, to have a pluralism of at least three different important logics from consideration of such examples and the account of correctness of a logic they suggest. Moreover, given the central role that these logics have played in the development of non-standard logics, finding a situation in which all three can be correct, I contend, is an interesting version of logical pluralism.

2.5 Priest-Read Revisited

2.5.1 Sketch of a Contextualist Answer to the Priest-Read Challenge

In Chapter One we discussed a challenge to logical pluralism that even otherwise promising versions of pluralism were unable to satisfactorily address. The Priest-Read challenge asks how we can decide the truth-value of a proposition that follows from an inference-rule that is valid in one correct logic, but not in another, assuming the truth of the inference's premises. The logical contextualist's answer to this question is clearly that the proposition is true in contexts in which the rule according to which the proposition follows as a logical consequence is rendered correct by features of the context. So if the law of excluded middle, for instance, is rendered correct by contextual features of a context C_1 , then double-negation-

elimination and indirect proof will be valid in those contexts and any propositions that follow from true premises according to those rules will be true in C_1 . If features of a context C_2 render the law of excluded middle invalid, then propositions that follow by double-negation-elimination and indirect proof from true premises will, other evidence for the proposition being equal, have an indeterminate truth-value (whether this is falsity as in a two valued intuitionistic semantics or a third value in a three-valued semantics).

One objection that this response may precipitate is that the response is only made possible because of an equivocation about the concept of good art. The sentence “ p is good art” is true in Ana’s context but not true in Jen’s because the sentence is expressing different propositions in the two contexts. I expand on my response to this objection in Chapter Four. For now, though, it is worth noting that I do not regard the sentence “ p is good art” to express different propositions in Ana’s and Jen’s contexts. Rather my view is that the sentence “ p is good art” as uttered in Ana’s and Jen’s contexts expresses the same proposition, but the proposition has a different truth-value in the different contexts. How can this be? In order to answer this question fully we will have to take a detour through some contemporary pluralist theories of truth. However, as a preliminary answer the thought is roughly that there can be different properties that manifest truth in different contexts and that the property possessed by true propositions in Ana’s context is preserved in double-negation elimination inferences, while the property that manifests truth in Jen’s context is not.

2.5.2 From Alethic Pluralism to Logical Contextualism

Numerous authors, the most well-known among them being Crispin Wright (1992b, 1999, 2013), Michael Lynch (2008, 2009, 2013), have defended a view known as *alethic (or truth) pluralism*.⁴² Roughly the common thread in this school of thought is that “there is more than one property of propositions in virtue of which propositions (that have that property) are true” (Lynch 2013). So for example, some propositions are true because they correspond to reality, others are true because they are superwarranted,⁴³ and others are true because they cohere with the known facts. While there are a variety of different pluralist views about truth, in general, there are two components to any pluralist theory of truth. The first component is the claim that there are general and minimal principles of truth that any truth-predicate must conform with. These general and minimal principles are sometimes called *platitudes* about truth (Wright 1992) or “core truisms about truth” (Lynch 2009 p. 70). As Wright puts the point, “Any predicate is a truth-predicate that satisfies certain basic principles,” and “to be a truth-predicate is merely to satisfy a set of very general, very intuitive, a priori laws—a set of platitudes” (Wright 1992 p. 72). Some examples of the truth-platitudes are as follows,

Any truth-apt content has a significant negation, which is likewise truth-apt.
To be true is to correspond to the facts;
A statement may be justified without being true, and vice versa...
(Wright 1992, p. 34)

⁴² For an anthology containing a variety of other attempts to define and support truth pluralism as well as some criticisms of it see Nikolaj J.L.L Pederson and C.D. Wright (2013).

⁴³ Lynch defines superwarrant as follows, “p is superwarranted just when believing p is warranted at some stage of inquiry and would remain warranted without defeat at every successive stage of inquiry” (Lynch 2013 p. 21)

Other principles that have been put forward as truth-platitudes are,

P is true if things are as P says. (Wright 1992, Lynch 2013)

If P is true, then P is a worthy goal of belief. (Lynch 2013)

Believing true propositions is a norm of belief. (Lynch 2013)

So the first component of alethic pluralism is to specify some minimal features of a truth-predicate. The second part of truth-pluralism involves the claim that there are different properties that propositions can possess that conform to the platitudinous principles of truth. In other words, there are different properties that a proposition could manifest that make that proposition such that it has a substantial negation that is also truth-apt, such that it correspond to the facts, such that things are as it says they are, and so on. For instance, superwarrant and correspondence are two different properties that a proposition could possess that exhibit these features. So, if propositions in some domain of discourse can have the property of corresponding with reality, then propositions in that domain possess a property that exhibits features to which a truth-predicate would appropriately apply. In a different domain of discourse propositions may possess some other property such as superwarrant or coherence. Propositions that possess these properties also exhibit features which make the truth-predicate appropriately apply to those propositions.

Since logical validity is a property possessed by inferences that preserve truth from premises to conclusion, one may wonder if the existence of different truth-predicates would have any implications for logic. Lynch thinks it might. He claims that alethic pluralism “may

imply a type of logical pluralism” (Lynch 2008, p. 124, 2009 p. 91-104).⁴⁴ I do not want to go into Lynch’s case that alethic pluralism may lead to logical pluralism. However, consideration of some of the factors that make a domain of discourse possess a *thick* as opposed to a *thin* truth-predicate in Wright’s version of alethic pluralism can illuminate why logical pluralism might be an appealing view for alethic pluralists.

Wright’s truth-pluralism is motivated by his project of characterizing the difference between realist and non-realist domains of discourse in terms of what sorts of properties propositions in those different domains of discourse must possess in order to be true. In realist domains of discourse the truth-predicate is thick because correct application of the truth-predicate within such domains is constrained by principles beyond the minimal truth-platitudes. On Wright’s view a domain of discourse in which the property that realizes truth only exhibits the general and minimal truth-platitudes is not a realist domain of discourse. However, our attention, unlike Wright’s, will not be to show that different truth-predicates apply within different domains of discourse. Rather it will be to illustrate that different truth-predicates apply in different context and sometimes to the same proposition. One example of a thick principle that constrains applications of the truth-predicate in some domains is *cognitive command*. Wright (1992b) formulates the cognitive command requirement as follows,

Cognitive Command: A discourse exhibits Cognitive Command if and only if it is a priori that difference of opinion arising within it can

⁴⁴ I am becoming aware of Lynch’s logical pluralism as I write this. Otherwise Lynch’s views could have been evaluated in Chapter One as a version of logical pluralism either on their own or as a supplement to DeVidi-pluralism since Lynch’s pluralism hashes out a domain relative version of pluralism.

be satisfactorily explained only in terms of “divergent input,” that is, the disputants’ working on the basis of different information (and hence guilty of ignorance of error, depending on the status of that information), or “unsuitable conditions” (resulting in inattention or distraction and so inferential error, or oversight of data and so on), or “malfunction” (for example, prejudicial assessment of data, upwards or downwards, or dogma, or failings in other categories already listed). (Wright 1992b pp. 92-93)

Now consider this in light of certain elements of ART SHOPPING. The basic strategy I pursue here is as follows: I argue that cognitive command is operative in Ana’s context along with an additional constraint on the truth-predicate I call the *excluded middle* constraint. As a result of these two constraints on the truth-predicate in Ana’s context truth is preserved by double-negation-elimination inferences in her context. Double-negation elimination is, therefore, valid in Ana’s context. However, neither the cognitive command nor the excluded middle constraints hold within Jen’s context. In her context the truth-predicate is not preserved by double-negation elimination. And, therefore, double-negation-elimination is not valid in Jen’s context.

Discourse about the truth of claims about goodness of a work art in Ana’s context exhibit cognitive command. That is, all competent, suitable and attentive observers operating in Ana’s context or any essentially similar context, will come to the same judgments about the truth of a proposition of the form “*p* is good art.” The only circumstance in which there will be a disagreement of judgment in Ana’s context is if the divergence is explainable by some kind of cognitive shortcoming (that is ignorance, unsuitable conditions, or malfunction). Why will agents with no cognitive shortcomings operating in Ana’s context come to the same judgments about good art? The reason is that in Ana’s context the aesthetic

qualities that determine whether a work of art ought to be appreciated by the relevant audience are clearly identifiable. Since these visual characteristics are clearly defined, agents with visual acuity who know what they are looking for will come to the same judgment about whether a work of art is good.

So, judgments about the goodness of art by agents in Ana's context will be disciplined by the cognitive command constraint. This constraint is over and above constraints that operate on minimally truth-apt contexts. Wright makes a similar point when explaining how cognitive command constrains applications of a truth-predicate in a domain of discourse,

Minimal truth aptitude results from the currency of standards of warranted assertion which doubtless will generate convergence in significant class of circumstances. But it is consistent with the minimal truth aptitude of discourse that the relevant standards are highly tolerant, or underdetermine a substantial class of potential disagreements, or otherwise allow a degree of idiosyncrasy in their application, and so permit divergences of opinion in which, judged purely by those standards, no shortcoming need be involved. *Cognitive Command precisely tightens down on that slack.* (Italics added Wright 1992b p. 94)

So agents with no cognitive deficiencies come to the same judgment about the truth-value of the proposition that p is good art. At first blush we might think that three different sorts of alethic judgments are possible about any given proposition of the form " p is good art." It might be judged true, false, or indeterminate. So, cognitive command constrains judgments such that agents with no cognitive deficiencies would come to one of the above three judgments. However, in Ana's context, I submit there is an additional constraint on alethic judgments that augments the cognitive command constraint in such a fashion that

rules out the possibility of indeterminate judgments about the alethic value of the relevant class of proposition. In Ana's context the visual characteristics that determine whether a work of art is good are, as stated, clearly identifiable. Any agent with properly operating visual and cognitive capacities will be able to determine if the relevant aesthetic qualities are present. If they are present, then the proposition that p is good art is true. If they are not present, the proposition is false. The only available alethic judgments about the relevant class of propositions are judging them true, or judging them false since for practical purposes it will be clear enough whether any work of art possesses these characteristics in Ana's context.

The next stage of the argument is to establish that because of the way applications of the truth predicate are constrained in Ana's context double-negation-elimination is valid in her context. As discussed, in Ana's context alethic judgments are constrained by a cognitive command constraint and an excluded middle constraint. In her context the truth-predicate appropriately applies to a proposition of the form " p is good art" in virtue of its capacity to mark a set of clearly identifiable visual characteristics that ought to be appreciated by the relevant audience (and that any other agent in her context whose has no cognitive shortcomings will agree with). As well, in Ana's context, propositions of this form cannot have an intermediate truth-value. Therefore, the negation of the proposition that p is good art in Ana's context is naturally understood as being true if and only if the proposition that p is good art is false. The reason for this is that the negation of the proposition that p is good art would in effect be saying that it is not the case that p should be appreciated for any clearly identifiable aesthetic qualities it exhibits. The work of art's aesthetic qualities, whatever they may be, are not ones that ought to be appreciated by the relevant audience. In Ana's context

the negation of the proposition that p is good art is contextually enriched in such a fashion that endorsement of that proposition amounts to the claim that p does not possess all the clearly identifiable qualities that are needed in order for p to be a work of art that ought to garner the appreciation of the relevant audience. Such a proposition would only be true if the proposition that p is good art—that is, the proposition that p possesses appropriately desirable qualities (by the relevant audience)—is false. In turn the negation of the negation of the proposition that p is good art would be true if and only if the proposition that p is good art is true. Therefore, double-negation-elimination is valid for propositions of the form “ p is good art” in Ana’s context. But it is valid because propositions about the goodness of art, in her context, mark clearly identifiable visual characteristics of the art, and because agents’ judgments about the goodness of art will converge on either truth or falsity for any such proposition about a work of art in this context.

So we can clearly see how the nature of the truth-predicate in Ana’s context is such that it will be preserved by double-negation elimination inferences. Now we move on to the issue of why the nature of the truth predicate in Jen’s context differs from the truth-predicate in Ana’s context and why this truth-predicate is not preserved by double-negation elimination inferences.

A work of art, for Jen’s audience, ought to be appreciated for its aesthetic qualities only if it is conceptually original in addition to having identifiable visual qualities. The reason for the additional requirement is because of the identity of Jen’s audience as highly informed and experienced art aficionados. However, determining whether a work of art is conceptually original is a more difficult matter than determining if it possesses clearly

identifiable aesthetic qualities. Indeed it is highly possible that there is simply no fact of the matter as to whether some painting is conceptually original. For example, it may appear that the artist of a painting is using some conceptually original techniques, but it is unclear whether the artist developed these techniques themselves or simply took them from a contemporary artist who was employing similar techniques, influenced by similar people and was from roughly the same region. Moreover, it may simply be unclear whether some painting rises to the level of conceptual originality. In such a case it is not that it is unclear whether the art was or was not conceptually original. Rather, it is that no facts definitively determine conceptual originality. Perhaps the work of art is in some blurry zone between conceptual originality and non-conceptual originality. This point is naturally expressed in terms of the absence of cognitive command for such matters: competent judges in possession of all the relevant information can disagree about whether a particular work constitutes a conceptual innovation without one of them being mistaken. Furthermore, given that there is often no fact of the matter about the conceptual originality of a work of art, there is also no excluded middle constraint on judgments about the truth of propositions of the form “*p* is good art” in contexts in which conceptual originality is important to the determination of the goodness of a work of art. So clearly in Jen’s context indeterminate judgments about the truth-value of the proposition that *p* is good art are possible.

So far we have established that Jen’s context is not constrained by excluded middle or cognitive command. We have also established that there is often no fact of the matter as to whether a work of art is conceptually original in Jen’s context and, therefore, there is often no fact of the matter about whether a painting is good in her context. Given the lack of these

constraints we will be able to show that the truth-predicate in Jen's context will not preserve by double-negation elimination inferences. In negating the proposition that p is good art in Jen's context we are regarding the proposition as indeterminate between being false and having an indeterminate truth value. The double negation of the proposition that p is good art allows for the possibility that p is good art is true and for the possibility that p is good art is currently indeterminate. Therefore, since the truth of the double-negation of p is not good art does not ensure that the proposition that the negation of p is good art is true, double-negation-elimination does not preserve truth in Jen's context. So, all other evidence for that proposition being equal its truth-value diverges from the truth value of the same proposition in Ana's context.

2.5.3 Revisiting Priest-Read Again

Having seen how different constraints on correct application of the truth-predicate can arise in different contexts gives logical contextualism a clear and developed answer to the Priest-Read challenge. The answer to the challenge is that different contexts can have different constraints on the truth-predicate. These constraints can result in situations in which application of the truth predicate to the same proposition is constrained in different ways when uttered in different context. If all information is equal between the contexts and the constraints allow us to logically infer a conclusion in one context but not the other, then the conclusion ought to be regarded as true in one context but not the other. This strikes me as one plausible way that a logical contextualist, as a version of logical pluralism, could take the Priest-Read challenge head on.

2.6 Conclusion

It is plausible that many considerations might come into play in evaluating the plausibility of alternatives to C1 correctness. For example, one could imagine trade-offs between having a unified account of logical inference and accounting for more inferential practice in natural language. For instance one could explain deviant inferences about vague objects as being incorrect in order to preserve a unified account of all logic being classical. However, if one is interested in capturing genuine logical consequence, as seems to be historically an important goal of logic,⁴⁵ then there is pressure to develop an account of correctness of a logic that allows for different and competing logics to be correct. That is exactly the sort of account I have developed in this chapter. I began by considering an obvious account of correctness and illustrating how the obvious account does not adequately achieve the goal of capturing genuine logical consequence. One reason that the obvious account is inadequate is that it is unable to capture differences among the set of logically valid inferences in different domains of discourse such as law, domains that involve vagueness, or perhaps quantum physics. There are many domains in which logically correct reasoning diverges from classical logic. Therefore, if we wanted to preserve a unified account of logic at the sake of making inferences in these wide and important domains incorrect that would amount to a fairly large sacrifice. Therefore, this line of reflection led us to entertain a discourse relative account of correctness of a logic. However, we also saw this account to be incomplete since even when we are reasoning about the same logic, but in different contexts, it is possible for classical inferences to be correct in some contexts which

⁴⁵ See Sider 2010 for a defense of this goal of logic.

are not correct in others. Therefore, we adopted a contextualist account of logical correctness. This account is not subject to the weaknesses the other two accounts were. Moreover, we saw that this account has a novel and interesting way to clearly address the Priest-Read challenge for logical pluralism. Correct application of the truth-predicate can have different constraints in different contexts, even when considering the same proposition. Thus, a proposition can be true in one context that is not true in another context because of different constraints operative over discourse in the different contexts.

Chapter 3

More Schematic Concepts With Logically Significant Contextual Saturations

3.1 Introduction

In the previous chapter I argued that there are schematic terms that have logically significant contextual saturations (call these concept SCLSCSs). In the last chapter the example I used to explain this linguistic phenomenon was the concept GOOD ART. However, logical contextualism would be uninteresting if the only examples involved taste concepts. In this chapter I will provide more examples of SCLSCSs with the purpose of making logical contextualism bear on a wider range of discourse. I discuss four further examples of SCLSCSs in this chapter, each of which is a concept that has been at the center of important philosophical reflection. Therefore, not only will this show that there are several concepts with logically significant contextual saturations, but that those concepts are of interest to philosophers. Having shown this I think logical contextualism can be regarded as an interesting version of pluralism that is of importance to philosophers working not only in the philosophy of logic but in other areas of philosophy as well.

The four examples of schematic concepts with logically significant contextual saturation I discuss are the response dependent concept MORAL ACCEPTABILITY, the epistemic qualifier PROBABLY, the mathematical concept FUNCTION, and the practical action concept THE-THING-TO-DO.

3.2 Moral Acceptability

There are arguably many important concepts that have logically significant contextual saturations. One important class of such concepts, which includes the concept GOOD ART discussed in Chapter Two, are response-dependent concepts. For many concepts, whether they are response dependent is a controversial matter. But, at least arguably, many concepts are response dependent.

In this section I will give a brief characterization of response dependent concepts. I also look at a particular example of an important concept that is, arguably response dependent—moral permissibility. I argue that that concept has logically significant alternative saturations. The structural similarity of this case to the good art case will be clear. We will then have a second example of the same general type, as well as reason to think that many more similar examples could be generated according to the same recipe. In the next section, I consider cases where the concepts susceptible to alternative saturations are not response dependent.

To illustrate the how response dependent concepts can be regarded as SCLSCSs it will be important to begin by explaining exactly what response-dependent concept are. A predicate Q is judgment (or response)-dependent, in the sense intended here, if the sentence “x is a Q” is true if and only if an appropriate class of agents regard x to be Q. One way of understanding response-dependence, explored by Wright (Wright 1992b pp. 108-111), can be explained by considering different readings of the following quantified biconditional expressing the relationship between piety and being loved by the gods discussed in the Plato’s dialogue *Euthyphro*,

(E-BE) For any act x: x is pious if and only if x is loved by the gods.

On the one hand, Socrates' views on piety can be classified as *detectivist*. His view is that piety is loved by the gods because it is pious. There are certain characteristics of pious actions that the gods have the capacity to discern. It is not that gods loving something that makes it pious, rather their love is directed towards pious things. Socrates' view can thus be understood as putting a left to right emphasis on the biconditional. Euthyphro, on the other hand, puts a right to left emphasis on (EBE). Euthyphro adopts what may be regarded a *projectivist* view about piety. The gods loving something is what makes it pious. Whatever actions that the gods happen to love, their loving them will make those actions pious.

We can now extend this analysis of response-dependence to moral acceptability. First, however, it is important to note that the concept of moral acceptability is particularly fraught from a philosophical point of view. Indeed it would be difficult to come up with concepts—aside perhaps 'justice,' 'knowledge' or 'truth'—that have been subjected to more philosophical scrutiny than the concept of moral acceptability. Consequently I will not be able to argue that the particular analysis of moral acceptability developed here is correct. However, I do hope to illustrate that if the fairly well-developed view that moral acceptability is a response dependent concept is on track, then moral acceptability is a prime candidate for being a SCLSCS. There are several contemporary views in metaethics that treat morality as response dependent. Chief amongst these are the constructivist views of Christine

Korsgaard (1996a, 1996b), Sharon Street (2006, 2010, 2012).⁴⁶ We do not need to go into any detail about constructivism in metaethics. However, moral value for the constructivists is judgment-dependent. That is to say that value arises from human beings judging various ends and personal identities valuable.⁴⁷ One overarching impetus for this view is that it gives a way to think of normative judgments as being true or false without positing an odd ontological category of moral facts that does not fit well with our naturalistic view of physical reality. For a constructivist there are no moral facts in the world independent of human beings whose judgments and attitudes toward certain things makes them morally valuable. Rather, certain actions are morally acceptable because they are compatible with values conferred on objects and identities by valuing creatures (Street 2012 p. 40).

Response-dependent accounts of moral qualities hold that the judgments and opinions of appropriate agents about what ought to be regarded as morally acceptable, in fact, determines the truth-value of sentences in which the predicate morally acceptable is ascribed to some action. The appropriate biconditional in the case of moral acceptability would be

(M-BE) For any act x: x is morally acceptable if and only if x would be judged to be morally acceptable by a suitable agent under standard conditions.⁴⁸

Both the E-BE and M-BE are what Wright calls *basic equations*. A basic equation is a quantified biconditional of the form,

⁴⁶ For discussion of both the appeal and the limits of constructivist views in metaethics see TM Scanlon (2012). For a summary of criticisms of regarding moral qualities as response dependent see Millar (2003)

⁴⁷ For instance one's personal identity as a father may be valued so that one seeks to protect and maintain it by treating their family well.

⁴⁸ This is adapted from Wright 1992 p. 108.

(BE) For all S, P: P if and only if (if CS then RS)

In (BE) S stands for any suitable agent, P is a predicate ranging over some class of judgments (for example judgments of colour, or as above moral judgments, but also being amused and even, potentially, mathematical judgments). On the left hand side of the biconditional “RS” represents S’s having some sort of appropriate response such as (having a visual impression of a colour, or being taken up with moral sentiment) and “CS” represents the satisfaction of optimality conditions on S’s particular response. As Wright states, “If the response is a judgment, then S’s satisfaction of conditions C will ensure that no other circumstances could have given the judgment formed a greater credibility” (Wright 1992 p. 109).

So in the case of (MBE) the left to right emphasis on the biconditional would mean that S’s judging of an action x to be morally acceptable under standard conditions would be constitutive of x being morally acceptable in the way the left to right reading of (EBE) makes an action pious dependent on the gods loving that action.

Before spelling out how moral acceptability can be saturated in logically significant ways it is necessary to first explain a bit more about what a “suitable agent” in (MBE) might be and what conditions are “standard conditions” for making judgments about moral acceptability. A “suitable agent” is an agent suitable to evaluate moral judgments. Presumably such an agent can be understood to be reasonable and experiences a relatively normal range of emotional reactions to their environment. That is, an agent who is capable of both a basic level of correct reasoning and is susceptible to being influenced by compassion and concern for the well-being of a suitable class of others. The notion of normal conditions

in (MBE) would refer to an individual having sufficiently properly functioning rational and emotional capacities; that either the internal states or the surrounding events of the particular moral judgment are not ones that have caused the emotional or rational capacities of the agent to be strained in ways that would distort the agent's judgment. So for instance, if the agent is significantly intoxicated or has had some sort of emotional breakdown these would violate the standard condition requirement.

Again, while I do not think that this view is clearly mistaken, I am not claiming that this is a correct view of moral qualities. However, if an action's having some moral quality is somehow dependent on suitable agents, under suitable circumstance, making judgments that the action has the moral quality, then, I contend, the concept of moral acceptability can be understood as an SCLSCSs.

How could such an understanding of judgments about moral acceptability be open to logically significant contextual saturations? One way that context might be thought to saturate moral acceptability can arise from consideration of the background characteristics of "suitable agents" that determine the moral acceptability of an action. Suppose the particular agent making the ethical evaluation of some action has a long history of employing what may be called a rights-based approach to ethical evaluation. Such an approach to ethical evaluation regards, as morally acceptable, any action that is not a violation of some person's rights. Such an agent, suppose, is committed to an approach to ethics which allows individuals as much freedom as possible. The only actions that are not morally acceptable are ones that substantially impair the freedom of others. This view is acquired by exposure to the moral thinking and decision making of a variety of people of influence in this agent's

experience. These people of influence have taught and shaped this agent's moral thinking and experience over the years. They have been held up as examples of the highest character by those in the agent's community. They are the sorts of peoples who are suitable for making judgments about moral acceptability from this agent's moral perspective. If the suitable persons for ethical evaluation from this agent's moral perspective adopt this approach to judgments of moral acceptability, then the principle of excluded middle will hold for any action that is subjected to evaluation of its moral acceptability. In other words any action x , whose moral acceptability can be evaluated, x is either morally acceptable or not morally acceptable. The agent's background moral education along with rational norms of consistency, fixes the method of appropriate evaluation of the morally acceptability of x .

A different agent may have very different background experiences. Suppose this other agent has been raised by a group who reason in a utilitarian-like fashion about moral acceptability, and consequently have a long history of evaluating actions for moral acceptability that are consistent with a utilitarian approach. However, our utilitarian-like agent has also been taught to classify several actions that do not maximizing utility but have a sufficiently high degree of utility as being neither morally acceptable nor not morally acceptable.

Consider the case of a contract in which a more experienced negotiator Jessica uses her knowledge to get the best of a deal with a less savvy negotiator Claire. Claire, if she had a better idea about what was going on in the negotiations, and what was at stake, would likely not have agreed to the deal that she did. However, she ultimately did agree to the deal and as a result her interests will be significantly compromised. However, Jessica clearly

acted within the law. She disclosed everything that the law and even business convention dictated that she needed to. She, thus, did not violate anyone's rights in the negotiations even though she stands to benefit from Claire's lack of negotiation skills. Consider the following inferences from the context of the rights based theorist and then from the context of the utilitarian described above,

- (1) It's doubtful that Jessica's action is not morally acceptable.
- (2) Therefore, Jessica's action is morally acceptable.

The rights-based evaluator of this scenario may be a bit taken aback by Jessica's actions but realizes that (1) is true. Jessica did not act in a way that is not morally acceptable. Moreover, given that this is the case and the rights-based evaluator values the freedom of people to act in any way they please so long as it does not violate another's rights will infer (2). Indeed given the truth of (1), for the rights-based evaluator (2) follows logically, since any action is either morally acceptable or not. The utilitarian could agree that (1) is the case. Perhaps Jessica's actions are not really morally unacceptable. After all there are good reasons for contract law to be the way it is and the consequences of a competitive business environment in which there are losers (let's suppose) has overall positive consequences. Thus, the utilitarian-like evaluator may be in a position to agree with (1), but reject the inference to (2). After all there are other possibilities (say if Jessica were a more open negotiating partner) that lead to higher overall amount of utility; possibilities in which Claire is not so gravely impacted by the deal.

Thus, we have a case in which the different moral experiences of agents select for different classes of “suitable agents” to fill the role of those who are capable of determining the moral acceptability of an action. Depending on the moral evaluators who fill the “suitable agent” slot there may be different logically significant saturations of the concept moral acceptability.

Again moral acceptability was used here as an example of how an analysis can be developed in which response dependent concepts have logically significant alternative saturations. By varying suitable classes of agents that determine the nature of how the particular response dependent concept applies in different context it is possible to find different logically significant saturations of response dependent concepts.

3.3 Probably

The epistemic qualifier ‘probably’ has generated substantial philosophical reflection. I will pick up on one thread in the discussion about ‘probably’ in order to illustrate how it may be regarded as a SCLSCS. This thread weaves its way through Rudolf Carnap (1962), Wilfred Sellars’ (1964) and more recently Robert Pinto (2007). According to Pinto, Sellars held that the,

. . . non-metric sense of ‘probably’ is the fundamental or basic sense in relation to which other epistemically normative senses are to be understood and that to say it is probable that p is to say that it is reasonable to adopt a particular propositional attitude toward p (i.e., that there are good reasons for adopting that attitude toward p). (Pinto 2009 p. 2)

And in Sellars’ own words,

. . . [in] *the basic non-metrical sense of “probable” (in relation to which all other senses are to be understood)*, to say of a statement or proposition that it is probable is, in first approximation, to say that it is worthy of credence, that it is acceptable in the sense of being worthy of acceptance; that is, to put it in a way that points to a finer grained analysis, it is to say that all things considered there is good reason to accept it. (Sellars 1964 p. 198)

Carnap points out that the word ‘probable’ was “used originally in everyday speech for something *that is not certain but may be expected to happen* or presumed to be the case” (Carnap 1962 p. 182).

Pinto follows Sellars in regarding ‘probably’ as a doxastic attitude, but follows Carnap in that he regards the relevant doxastic attitude to be *expecting* as opposed to *accepting*. Thus, on Pinto’s account, the claim that ‘P is probable,’ amounts to the claim that *there is reasonable expectation that P*.⁴⁹ We can formulate this account of probability as,

(PG) Some event E is probable if there is a *reasonable expectation* that E.

A reasonable expectation, it should be noted, is not a universally uniform standard. Whether an expectation is reasonable varies depending on particular context. The standards of what can be reasonably expected can vary from context to context. Thus, ‘reasonable expectation’ can be regarded as a schematic term. An engineer, for instance, testing the stability of a bridge is going to require a very high degree of confidence before they have a reasonable expectation that the bridge will not collapse and correctly assert, “probably, the

⁴⁹ Pinto argues for this by claiming that the statement “It will probably rain tomorrow, but I don’t expect it to rain” is a pragmatic inconsistency since it is unreasonable for someone to think it will probably rain tomorrow if they don’t expect it to rain tomorrow.

bridge will not collapse.” On the other hand, in a scenario in which Charles is responsible for bringing the milk home each night, but only remembers to do so four out of seven nights of the week, his family members, on any given night, ought to neither have a reasonable expectation that “probably, Charles will bring home the milk tonight” nor that “it is not the case that probably, Charles will bring home the milk tonight.” In the latter example the regularity with which Charles brings home the milk does not determine whether it is true that Charles’ family can reasonably expect him to bring home the milk.

When considering the engineer’s context we can imagine that there may be a variety of regulations that specify under what conditions an engineer can report that a bridge will probably not collapse. It is unlikely that for every degree of probability there is a fact of the matter settling whether the engineer can reasonably expect the bridge to collapse. In other words some versions of the proposition that probably the bridge will not collapse are neither true nor false. However, there are a variety of ways of precisifying indeterminate cases so that they come out as either being true or being false.

To illustrate consider the vague predicate “bald.” There are clear cases of baldness, there are clear cases of non-baldness, and there are middling cases in which a person is neither bald nor not bald. However, for every *sharpening* of the predicate bald so it has an exact extension the statement “either S is bald or S is not bald” is true. A sharpening is a precise definition of a vague predicate. Suppose 5000 hairs on a head is somewhere in the borderline bald range. One sharpening of bald would be to say anyone who has 5000 or more hairs is not bald and anyone with less than 5000 hairs is bald. Another sharpening would be to say that anyone with equal to a greater than 5001 hairs is not bald and anyone with less is

bald. So, however, you want to sharpen baldness you get excluded middle as a valid logical principle since for any person on any sharpening it will still be the case that “either S is bald or S is not bald.”

Now in the engineering case, regulations for when engineers can include the claim that “probably the bridge won’t collapse” in a report may be based on a particular sharpening of what a reasonable expectation that the bridge will not collapse amounts to. So if there if there is a 1 in 100 chance that the bridge will collapse in the next 20 years, then perhaps the engineer is not permitted to claim that “probably the bridge will not collapse.” However, if the chance that the bridge will collapse is 1 in 200 over the next hundred years, then regulations make it acceptable for the engineer to claim that probably the bridge will not collapse. The context in which our engineer is reasoning about whether the bridge will collapse is dictated by a particular sharpening. Thus, the statement “probably the bridge will not collapse” is either true or false. On that sharpening excluded middle will be a valid logical principle. However, this is not the case for Charles’ family. The standards in this context do not require, or even recommend, any kind of sharpening. For Charles’ family it is simply neither true nor false whether they can expect Charles to bring home milk on any given night. So in everyday contexts excluded middle is not a valid principle.

Clearly, for the concept PROBABLY there are different contexts that saturate the concept in logically significant fashions. In the engineer’s contexts something like classical logic with excluded middle is correct, while in everyday contexts such as the one discussed above intuitionistic or some three-valued logic is correct.

Note that like ART SHOPPING the example being considered is an objective matter whether excluded middle is correct. It is objective in the engineer's case since not conforming to reasoning patterns that follow from excluded middle is inconsistent with professional standards that they are bound to uphold. In the case of Charles' family if they were to reason in accordance with excluded middle they would also be making a mistake. It is not true that Charles is probably going to bring home the milk nor is it false. And to reason inconsistently with this would be to make a mistake.

The account of PROBABLY as a SCLSCS just sketched relies on an account of 'probably' as advanced by Pinto who synthesizes aspects of Carnap's and Sellars' views. However, as stated, the term 'probably' has been put to substantial philosophical scrutiny and there are a wide variety of accounts of what the term means. While I agree with Pinto and Carnap that the original sense of the term 'probably' is connected to the notion of a reasonable expectation there are a wide variety of analyses of 'probably.' Not all of these accounts make 'probably' out to be a reasonable expectation. However, unless there is a substantial fissure between the everyday original sense of 'probably' and the specialist conception of 'probably' so that there are really two different concepts, then any account of the term 'probably' must allow for that term to have different roles in different contexts. Thus, even if the exact details of the account of the meaning of the term 'probably' sketched here are not accurate, the term is still plausibly understood as having some general definition that is schematic in character. Furthermore, some of the saturations of the schematic concept should come out to be logically significant given the above analysis.

Note that unlike the ART SHOPPING example from Chapter Two the contexts here do not share a common object that is being reasoned about. The objects that the engineer and Charles' family are reasoning about are different. What element of their different contexts explains why the double-negation elimination inference is valid in the engineer's context but not in Charles' family's context?

In order to isolate this element the contexts we need to look at what factor differs in Charles' family's context from the engineer's context that explains why excluded middle is not valid in the former but is valid in the latter context. There is a clear distinction between the stakes that are at issue for Charles's family and those that are at issue for the engineer. For instance, Charles' family is not operating in a high stakes scenario while the engineer is. The reason for determining the likelihood of Charles remembering to pick up milk would presumably be to acquire information that would help in planning the dinner menu, or whether or not it will be possible to have milk and cereal for breakfast. However, there is not much hanging on their evaluation of whether or not Charles will bring home milk. To the contrary it is very important for the engineer and for the public at large that the engineer makes a credible and accurate assessment of whether she can expect the bridge to hold. The consequences in this case are severe. In addition to the loss of human life there can be significant economic consequences when a bridge collapses and the relevant government bodies need to know when they are going to have to do repairs on the bridge to maintain the bridge's integrity. Propositions that are neither truth nor false are not helpful in making these decisions, nor would such claims be helpful in giving much public confidence in the bridge. Therefore, it is necessary that some sharpening takes place to classify degrees of

probability at which the engineer can assert that “probably, the bridge will not collapse.” However, excluded middle does hold in the everyday context that Charlie’s family is in. In the latter case there is no fact of the matter as to whether Charles’ family should reasonably expect Charles will bring home the milk.

In this example both of the contexts under consideration are using the same concept, but the contexts, unlike ART SHOPPING, do not share a situation. One of the factors that went into determining whether a version of logical contextualism was interesting was whether it was possible for conflicting inferences to be valid in the same situation. However, because some examples of SCLSCSs do not share situations does not undercut the overall level of interest in the account. The idea is that in several important cases they can share situations. However, the overall phenomenon of concepts being saturated in logically significant ways is plausibly much broader than simply the logically significant saturations that share a situation. And, some of the concepts that can be saturated in logically significant ways may not share contexts. Illustrating this can add to the overall degree of interest in the account, especially if the concept is philosophically important as is the case with the concept PROBABLY.

I am not suggesting, however, that it is inconceivable that there be situations in which PROBABLY could be saturated in different logically significant fashions. However, specialist contexts like the engineers are not likely to share a situation with everyday contexts like that of Charles’ family. However, different scientific communities may operate with different overall purposes in mind. These scientific communities could have different contexts but share a situation. Application of the concept PROBABLY could, in such circumstances, have

logically significant contextual saturations in the different contexts. Consider a group of scientists working for a drug company. Suppose scientists are given very specific guidelines about when they can say that a drug is probably effective at treating X. This would have the same effect as the government's standards required for the engineer to assert that probably the bridge would not collapse. The specifications assigned by the company are the minimum treatment success rate for a drug of this nature to get an approval from the proper drug regulating authorities. The company, wanting to get the drug out to market as soon as possible, sharpens the standards for its scientific team so that they can assert "probably the drug is effective for X" once it has satisfied the minimal standards of effectiveness the company thinks it will need to get approval to put the drug on the market. However, independent doctors may not be willing to assert that "probably the drug will be effective for your X" to their patients. They may even share this information with pharmaceutical company scientists and dispute their claims. Many drugs can get approval for use even if they are effective less than 50% of the time. This is the case, for example, when the best available drugs are effective less of than 50% of the time. However, a concerned patient asking for the doctor's honest assessment about what is the likelihood that the drug will be effective may not be willing to say, even with a very high degree of effectiveness that, probably the drug will be effective. The doctor may lose credibility in the eyes of the patient if they prescribe them drugs that do not work very well and tell them that they are likely to be effective. The drug may be in an range were it is unclear whether or not the drug will probably be effective for them and the doctor, in this context, ought to tell the patient as much and reason in a manner consistent with the indeterminacy of the effectiveness of the drug. However, the

pharmaceutical scientists operating under different standards could very well assert that this is an effective drug.

How might a disagreement between the doctor and the pharmaceutical scientist occur in the same situation? Suppose they are attending a dinner put on by the pharmaceutical company to promote use of their drug among physicians. The scientist is advocating for use of the drug and the doctor is concerned with some claims the scientist is making given that she would not be able to make the same claims to her patients. In the scientist's context inferences involving the probability of the drug's effectiveness may be governed by the principle of excluded middle. However, in the doctor's context this is not the case. Therefore, there seem to be different logics operative in the two different contexts. One logic in which excluded middle is valid, the other in which it is not. The difference that explains the divergence over excluded middle in these contexts is not so much high stakes. Rather the different purposes of the doctor and the pharmaceutical scientist explain a difference over excluded middle in their two contexts. In the doctor's context maintaining credibility with their patients is important, while in the pharmaceutical scientist's context getting the drug on the market and selling as much of it as possible are key objectives.

Therefore, even with the concept PROBABLY it is possible to conceive of different contexts sharing situations in which concepts are saturated in different logically significant fashions.

3.4 Function

Recently DeVidi (2012) and Sambin (2011) have advanced a view that within constructive mathematics, one can find (at least) two distinct, correct, and yet inconsistent accounts of the mathematical concept of a *function*. That is to say, they have advanced the view that there is more than one right answer to the question “what is a function?” They are the so called “geometric” and “computational” variants of the constructive notion of function. Similar to the classical approach, the geometric approach “identifies a function with its *behaviour*” (DeVidi unpublished manuscript). The “geometric” notion of a function f is a relation between pairs of elements of two sets X and Y such that each element x from the set X (the functions *domain*) is assigned to one element y from Y (the functions *codomain*). This relation can be formally symbolized as $f(x)=y$. Consider a case of two perpendicular lines drawn through the Euclidean plane, a series points on the plane, and a unit of measurement. For each point there will be a pair of values (the Cartesian coordinates) of the point. The function from the x -value of each point to the y -value is a geometric function in which the domain is the set of x -values of the points and the codomain is the set of y -values. The computational notion of function “identifies a function with *the instructions for computing it*” (DeVidi unpublished manuscript). On this notion of function the element x of X is assigned a y element of Y in accordance with definite set of rules or procedures for computing the y element from the x element. Any function which has an algorithm that specifies a mechanical procedure for computing the output of the function given its inputs (arguments) would fall into this conception of function. So, for example, any function specified by giving a Turing machine that computes it is a computational function. From a classical point of view it is

natural to think that the “computational” notion of function is simply a less general and impoverished version of the “geometric” notion of function. After all in countable languages there can be only countably many instructions for computing functions, but even if attention is restricted to the natural numbers there are uncountably many functions. However, this is no longer so in a constructive setting. As DeVidi (unpublished manuscript) explains a point that is implicit in Sambin (2011),

If one bundles the “functions are instructions” idea together with some other notions that seem its close conceptual kin (i.e., that every function on the natural numbers is recursive, and a version of the axiom of choice valid in most formalizations of this sort of constructive mathematics), then the approach is *provably inconsistent* with the principle (basic to both the classical and the geometric view) that functions are extensional (i.e., $\forall x(fx = gx) \rightarrow f = g$) [p. 70]. So the two notions are actually *incompatible* in some important way, rather than one being the impoverished cousin of the other. (DeVidi p. 6)⁵⁰

How is it possible for there to be two inconsistent notions of function within constructive mathematics? Sambin’s answer to this question is that different types of constructive mathematics make different *abstractions* in arriving at the divergent conception of function. We can abstract the idea of yellow from a banana, by “forgetting” or in some other way disregarding the shape, texture and other non-colour features of the banana. The idea is that mathematics is similar. Of course mathematical abstraction has important differences from abstracting the colour yellow from a banana. Part of DeVidi’s project (DeVidi unpublished manuscript) is to develop an account of how to make sense of the analogy between abstracting yellow from a banana and mathematical abstraction by developing an account of

⁵⁰ Also see Sambin p. 70

how abstraction works in mathematics. In particular, it is very unclear what would play the role of “the banana” in mathematical abstraction. DeVidi’s suggestion is that while the beginnings of mathematics may involve the basic sort of abstraction from physical objects like bananas, waterfalls, the moon’s movement around the earth, most mathematical abstraction is performed on already abstracted mathematical “objects.” A variety of different objects are seen to be akin and, rather than a quasi-sensory process, mathematical abstraction is a matter of providing answers to the question “what makes all these things akin?”

In the case of function one line of abstraction has resulted in the “geometric” notion of function, another has resulted in the “computational” notion. It is important to note that prior to the abstraction of the different set of principles there is already some mathematical phenomenon with which we are dealing. Given this situation, however, in which constructive mathematicians have two divergent conceptions of function based on two different abstractions it is possible to abstract a more general conception of function based on what the two divergent notions of function have in common. For instance, in the background of both conceptions of function is the idea that a function is some sort of *matching* of inputs and unique outputs. In the geometric case it is not relevant that there be a rule that takes us from the inputs to the outputs, while for the computational case a rule that proceeds from the input to the output is required for there to be a matching.

The observation that there is a more general sense of function that embraces both the geometric and the computational conceptions of that concept allows us to formulate a generalized schematic conception of function,

(FG) A function is a *matching* of inputs with unique outputs

If we understand the domain and the codomain as a set of possible inputs and outputs, and the matching as a mapping of members of the domain to the codomain, we can capture the essential idea of the geometric conception of function. However, if we understand (i) the inputs as the set of things that serve as inputs for a set of instructions and produce a unique output, (ii) the matching as the set of instructions that takes in the inputs and produces a unique output, and (iii) the output as the product of the process that took in an input, then we can capture the essential idea of the computational conception of function.

The different specifications of (FG) possess logically significant consequences. For instance, if the concepts are specified such that the function as instruction notion is appropriate then inferences from $\forall x(fx = gx)$ to $f = g$ will not be valid, however, saturations with the geometric conception of function will make such inferences valid.

In order to demonstrate that the concept of function has logically significant *contextual* saturations what it is necessary to illustrate how different *contexts* saturate (FG) in such a fashion that (FG) is made precise in accordance with the computational notion in some contexts and with the geometric notion in others. In contexts that involve the use of computer programming functions can be regarded as sets of instructions for getting from certain inputs to certain outputs. However, when engaged in proving theorems about functions on the natural numbers it is probably best to use the geometric notion of function.

When dealing with computer programs a series of steps needs to be taken to get from the input to the output. This fact about computer programs makes the function as instruction

notion of function programming contexts. However, as pointed out earlier, in classical set theory at least, on the set of natural numbers there are uncountably many functions even though on the function-as-instruction view there can only be countably many instructions for computing functions. This fact makes something like the geometric notion of function more appropriate when thinking about functions on the natural numbers.

The relevant factor fixed by the context which explains why different attitudes towards the validity of the same inference are correct is epistemic purpose. In the case described here a computer programmer will have different epistemic purposes from the number theorist. The goal of developing and analyzing computer programs requires thinking through rules that will execute a series of discrete steps in an order that will produce the desired results of the program. The number theorist, however, wanting to learn about properties of the natural numbers and having to deal with the uncountably large sets will want to employ something more like the geometric concept of function.

One caveat to note here is that it is unclear that the function example really gets us two distinct logics. The principle that functions are extensional could be regarded as a non-logical principle so there is an issue as to whether simply getting different sets of valid inferences on the different saturations of function is sufficient for the saturations to be logically significant. In other words, do we really get different logics even though we have different sets of correct inferences on different saturations of the concept ‘function?’ There are several ways that we might think of this as resulting in different “logics.” Ultimately this will depend on what it takes for something to be a logic. If a logic is nothing more than the set of valid inference principles of a language, then there will be two different logics that

result from the different saturations of function. However, this conception of what a logic is may strike some as overly arbitrary. After all we can formulate a system of rules in such a fashion that would make any inference we like valid. For instance, we could simply make Arthur Prior's infamous tonk-rule out to be an axiom then it would be possible to prove any arbitrary proposition Q from any arbitrary proposition P .⁵¹ It is a stretch to call any such system of rules logical. Indeed it is doubtful that there are any contexts in which the tonk-rules are correct. But why then would we think that the different saturations of the concept function produce different *logics* rather than simply different sets of correct *inferences*?

One reason why we might regard the difference as one that can be chalked up to a difference in logic is that the conflicting correct inferences do seem to be logically valid or invalid. On the geometric conception any time you have an argument of a function f that is equal to the argument of a function g then the functions f and g are equal. This inference, in the context of, for example, doing number analysis will never lead one from a truth to a falsehood and, thus, can be considered logically valid in that context. Recall Chapter One in which we argued that logical implication was truth-preservation in spite of Field's claim that it was not. Now that logic is truth-preservation is surely not the complete story. After all from the proposition that Regina is West of Toronto, the inference to the proposition that Toronto is to the east of Regina will preserve truth in any world in which east and west mean what they do. It should not follow that this is a logical inference merely because it preserves truth. Certain other characteristics seem to be required for the inference to be logical. Perhaps one

⁵¹ Tonk is a rule of inference which has the introduction rules of disjunction and the introduction rules of conjunction. So given A we can infer, by the tonk introduction rules, A tonk B . And, given the tonk-elimination rules we can infer B . So we would be able to infer an arbitrary B from some give A if tonk was a legitimate logical constant. See Prior (1960)

possible example of such a characteristic is that that certain inferences preserve truth in virtue of formal characteristics that they possess; that is, that there are an interesting class terms for which any member of that class can be substituted and the inference remains truth-preserving. This characteristic, in addition to the inference being truth-preserving applies to the inference mentioned above when done in the context of arithmetical analysis. However, in the context of computer programming it is possible for an argument of a function f to be equal to an argument of a function g , and still for f not to be equal to g . In a case for instance where f and g are different sets of instructions but produce the same result given the same input. Thus, the different saturations seem to conflict over the logical validity of the same inference and, thus, the different saturations can be chalked up to a difference in logic.

Another reason why we may consider the differences between the “geometric” and the “computational” notion of function to be logically significant is that most who hold a functions as instructions view take a version of the axiom of choice to be a principle of logic as opposed to a merely *mathematical* principle.⁵² On this approach a key feature of constructive reasoning is that “there exists an x such that” is a claim that can only be legitimately asserted when an example is available that can be proved to have the property in question. The version of the axiom of choice in question (which allows one to infer from “For all x there is a y such that Pxy ” to “there is a function f such that for all x , $Pxf(x)$ ”) is naturally thought to follow from the meaning of the existential quantifier. We can simply let f

⁵² The axiom of choice is an axiom of ZF set theory as well as of several constructive type theories. The axioms says that given a several collections of objects one can build another collection by selecting exactly one member from each collection.

be the function given by the rule that allows us to find a suitable example to justify the existential claim for any x .

Thus the axiom of choice is a principle that follows from what the existential quantifier means, i.e. is itself a logical principle—from this point of view. Constructivists who adopt the “geometric” point of view do not accept this reasoning. Indeed, in “geometric” versions of constructive mathematics, the axiom of choice implies the law of excluded middle, and implies exactly what constructivists are most strenuously in the business of denying the status of logical truth.⁵³

If one remains unconvinced, however, that the difference is a difference of logic, the function example still provides a case of how different contextual saturations have important *inferential significance*. Even if this falls short of logical significance it demonstrates the phenomenon whereby a concept can be filled out in different ways that make different sets of inferences valid. This would still make the concept of function a very close kin of an SCLSCS even if it falls slightly short of in fact being such an SCLSCS.

One final issue before leaving the function example is to illustrate how different logically significant saturations of the concept of function can occur in the same situation. In the circumstance as described we do not have a situation in which contexts that saturate function differently overlap. However, such a situation is not hard to imagine. Indeed there are disputes among different constructivists about the correct notion of function. As discussed constructivists operating with different views on the legitimacy of the axiom of choice may very well find themselves in shared situations in which they are disputing certain

⁵³ For a discussion of different conceptions and of common confusions surrounding the axiom of choice see DeVidi 2004.

applications of the concept function and what is implied by different applications of that concept. So, even with the concept of function we can see how different contexts which saturate the concept of function in different logically significant fashions can arise in the same situation.

3.5 The-Thing-to-Do

As another example, consider the concept “the-thing-to-do.” By “the-thing-to-do” I, roughly, mean the right course of action. This is a concept in practical reasoning and one that has been of particular interest in decision theory and ethics. For our purposes here I set out to develop one contextual saturation in which classical reasoning is correct and another saturation in which paraconsistent reasoning is correct. This example is perhaps the most tentative. However, I do think it is worth including in our considerations of SCLSCSs, since it can illustrate how logically significant saturations may be thought to motivate pluralism with paraconsistent logic and classical logic as opposed to intuitionistic logic (or a three valued logic) and classical logic.

Exactly what the appropriate definition of the concept “the thing to do” is will be a highly contentious philosophical issue in itself. However, one well-known and well-established account of this concept is “the course of action that maximizes *utility*.” Of course, there are a variety of different accounts of utility from pleasure, to overall interests, to preference satisfaction.⁵⁴ The commonality in each of these accounts though is that the right action is the action that produces the maximum possible *utility*. Moreover, it is worth taking

⁵⁴ See Kymlicka (2002) Chapter 2 for a summary of different accounts of utility.

note that the fact that there is philosophical disagreement about deciding upon what the thing-to-do is, as will become clear, not an obstacle to my overall account.

One way that might be fruitful for motivating logical contextualism about this concept would be if in certain contexts preference satisfaction and interests were appropriate specifications of utility maximization, while in other contexts pleasure was the best way to understand utility maximization. Pleasure may plausibly be understood to be more objectively measurable with certain events being experienced as distinctly more pleasurable than others. This might lead to sharp boundaries in assessing the truth or falsity of statements about the thing to do in such context and thus result in the law of excluded middle being a correct logical principle in such contexts. Preferences and interests, however, are likely not the sort of concepts that would result in always clearly true or false specifications of whether some occurrence better satisfies an agent's interests over some other occurrence. Often it will not be clear whether or not a certain course of action maximizes one's interests or preferences in comparison with other actions.

The approach sketched in the above paragraph is not the approach I will pursue here to motivate logical contextualism for the concept THE-THING-TO-DO. This is not to say that such an approach could not be taken, but I want to explore a different avenue, one that I think can motivate a context appropriate for paraconsistent reasoning.

One common way of understanding the concept "the thing to do" is, as stated, in terms of utility maximization. This is not the only way to understand this concept, however. Others have claimed that a sufficient or satisfactory amount of utility is all that is required for an action to be the-thing-to-do. Often these different views about the concept THE-THING-TO-

DO are regarded as opposing approaches to the norms of practical reasoning. However, it is not clear to me that these need to be regarded as alternatives. Rather these different approaches may be thought of as appropriate in different contexts for different sorts of choices. For instance, in high stakes contexts with lots of time, clear and complete information a proper outcome will be the course of action that maximizes utility. In high stakes scenarios especially ones in which one's choice will be scrutinized it is important that one arrives at the most complete ranking of choices as possible and chooses the course of action that will most likely lead to the best result. A close second will not be an acceptable choice since better options were available and in high stakes scenarios it is important to get things right or else risk harmful effects. However, in contexts where there is limited time, or where important information is unknown or unclear, utility satisficing is likely to be appropriate. In such situations it may not be possible to come to a rigorous and principled ranking of the available choices because of time and information constraints. In such a situation one does the best they can with the time and information they have. A satisfactory amount of utility is all that can be hoped for in such situations.

In both utility maximizing and utility satisficing there is a common conception of the thing to do. Both contend that the thing to do is the course of action that produces an *acceptable outcome*. Thus, a generalized version of the concept THE-THING-TO-DO would be,

(GTTTD) The course of action that produces an *acceptable outcome*

For an example of a context in which utility maximizing is the thing to do consider a judge deliberating about the guilt or innocence of a defendant. Presumably the judge will have enough time to go over all the information in order to come to a decision. Moreover, if there is not enough information to find the accused guilty, then the thing to do is to find the defendant not guilty based on the standard of reasonable doubt. However, if sufficient information is available, then the thing to do will be to judge the defendant guilty or not guilty based on the judge's assessment of all the information. Moreover, whatever decision the judge makes will need to be justified over the alternative possible decisions. Even if there seems to be very strong supporting reasons for both guilt and innocence whatever the judge or jury decides to do must show the favourability of making one decision over the other.⁵⁵

The judge or jury might reason as follows in such a circumstance,

1. Given the evidence the thing to do is not to find the defendant not guilty.
2. Therefore, the thing to do will be to find the defendant guilty.

In this context there are only two courses of action available and the judge must take one of them. Thus, if the judge is unable to find the defendant not guilty, then the judge must find the defendant guilty. A real world scenario in which a judge might reason from such a double-negation elimination would be if there is some reason that the judge may find it highly desirable to find the defendant not guilty. For instance, say the defendant is a model citizen who has contributed significantly to her community through very noble charity work,

⁵⁵ Note that in cases such as the one just described in which there is close to equal evidence supporting guilt and innocence the jury and judge are likely obliged to find the defendant not guilty due to the standard of reasonable doubt which is standardly interpreted as any plausible doubt whatsoever.

is well respected, and given a comprehensive review of the person's character it is clear they make an overall valuable contribution to their community and, in general, they are moral and law abiding. In this case the judge may want to find the defendant not guilty, but the evidence clearly supports the defendant's guilt. Thus, the judge ought to conclude that the thing to do in this case is to find the defendant guilty (and perhaps seek lenience for a sentence) in spite of them not wanting to find the defendant guilty. Imagine a judge bouncing some ideas about a pending judgment off of a clerk. The following dialogue may plausibly ensue,

Judge: The defendant is, in the big picture, a moral person who is an asset to our community and has helped a lot of people even if she was subject to a lack of judgment in this case. If there is any reasonable basis to find the defendant not guilty we should do that.

Clerk: Understood, but the evidence really does establish that the defendant did commit the crime for which she is being tried.

Judge: I agree, so I suppose the thing to do here is not to find the defendant not guilty, but perhaps to find them guilty and recommend a suspended sentence.

Clerk: So, in your judgment the client will be guilty, but you will recommend leniency.

Judge: Yes, I think that is the best way to approach this judgment.

I take it that the above constitutes a relatively realistic dialogue in which a judge and their clerk are reasoning by double-negation elimination about the right course of action to take. In this context the concept THE-THING-TO-DO is saturated in such a way that the acceptable outcome can only be one of two options—either guilty or not guilty. Thus, if it's not the case that the thing to do is to find the defendant not guilty, then finding the defendant guilty is the thing to do.

The context of a court decision fixes several parameters that explain why double-negation elimination is correct in the context outlined above. First, it constrains the number of options that the judge has available to them. Second, it requires the judge to take into consideration all the evidence. Third, the judge must make the best decision based on the evidence and clearly illustrate why the decision they made is justified over the alternatives available. This is the case especially when the alternatives also seem like reasonable decisions. It is not acceptable for the judge to make a merely satisfactory decision here. Rather the judge must make the decision that is the best given the alternatives available. Acceptable court judgments are supposed to be the ones most supported by the evidence and application of legal norms (e.g. precedent, interpretation of laws, application of legal principles).

Different contextual saturations abound, however, in which reasoning about the thing-to-do is constrained by limited information and limited time in which to make a decision.

Consider, for instance, someone deciding about what to do after successfully completing an undergraduate degree in Philosophy with high honours. A variety of options are available. The student could go to law school, to teacher's college, to graduate school, or directly into the work force depending on their personal goals, interests, financial situation and a variety of other factors. The information supporting the different choices is often unclear. Certainly the information is often incomplete. For such a decision an individual will generally have sufficient time. However, even though one may have an idea of what career one is better suited for, one does not really know in advance how well suited they are to

different careers and educational possibilities. It is plausible that after a careful consideration of the different options one may find that they are in the following situation; their information equally supports going directly into the work force or going to graduate school. However, it is clear that between these two options of what to do only one can be accomplished. Thus, someone trying to make a decision in these contexts could very well hold all of the following five beliefs,

1. Given the evidence the thing to do is to go to graduate school.
2. Given the evidence the thing to do is go directly to the work force.
3. It is not possible to go directly to the work force and to grad school.
4. Therefore, the thing to do is not to go to graduate school.
5. Therefore, the thing to do is not to go directly into the work force.

Note that if this were a classical context, then an absurd conclusion would follow since statements 1 contradicts statement 4 and statement 2 contradicts statement 5. However, the context here does not allow one to infer from the endorsement of 1-5 any old claim—say that the thing to do is become a circus clown. Given that it is not appropriate to infer an absurd conclusion given belief in 1-5 it would appear that reasoning about the thing to do in these contexts involves some sort of paraconsistent reasoning. At least the logical norms that bear on this bit of reasoning do not include the classical principle of *ex falso quodlibet*. It has to be possible to sustain belief and endorsement of the contradictory claims without it implying that anything follows from the presence of the contradiction. Note that in our example both going to graduate school and going directly into the work force are equally positively supported as the thing to do. Both courses of action are supported by the evidence and the student does not have a clear preference for one over the other given their considerations up to this point. In such a case a satisfactory outcome here is likely the way to

think about making the decision. If the thing to do is the acceptable outcome, then the thing to do will be to go to graduate school and not to go to graduate school. Since these are actions that, in fact, cannot be done simultaneously, the thing to do will be to either go to the work force or go to graduate school.

We have two examples of different logically significant contextual saturations of the concept the-thing-to-do. One saturation results in classical reasoning and the other is some form of paraconsistent reasoning. As mentioned earlier this example may be more tentative and problematic than some of the other examples I have developed. However, I think it is important to illustrate how it may be possible to have a contextual saturation that makes paraconsistent or some other relevance logic correct.

How is this example similar and different from the example in ART SHOPPING? Again I think that what inferences are logically correct in this example is an objective matter depending on the context that one is operating within. In making the decision to go to school one's reasoning will be strictly speaking mistaken if it does not allow reasoning with inconsistent sets of premises. Similarly the judge having only two available options will be forced to make a decision of either guilty or not guilty. Thus when deciding what the thing to do is in the context of making a decision, the judges reasoning must conform to excluded middle. The different saturations of the concept of the-thing-to-do do not share a situation. I do not see why it would be in principle impossible for situations to arise in which such contexts could share a situation. However, as mentioned in the discussion of PROBABLY it is possible that some examples of SCLSCS do not share situations. The phenomenon of logically significant contextual saturation is likely to be linguistically broader than the

phenomenon of logically significant contextual saturation in which the schematic concepts is saturated by different contexts with shared situations. I don't think this should be seen as jeopardizing the overall interest of the account. This is especially the case if, as we have seen in this chapter, there are several examples of contexts that saturate schematic concepts in logically alternative ways in the same situations.

3.6 Conclusion

In this chapter we have looked at several further concepts that can be understood as SCLSCSs. These concepts are not only frequently employed in practical and theoretical reasoning they have also been subject to a great deal of philosophical reflection. This chapter is by no means intended to be a complete analysis of all the concepts that have logically significant contextual saturations. Rather it is meant to show that an important, large, and interesting class of concepts can be plausibly analyzed as being SCLSCSs. I think this supports the case that logical contextualism is an interesting version of logical pluralism. Not only does logical contextualism explain how different conflicting logics can be correct in one situation. The different logics are correct for reasoning with concepts that are widely applied, are applied for reasoning about important issues, and have generated philosophical interest.

Chapter 4

Logical Pluralism and Peer Disagreement

4.1 Introduction

As mentioned in Chapter One a key characteristic of any interesting version of logical pluralism is that correct logics conflict with each other. In other words, in an interesting version of logical pluralism not only is it possible to formulate a variety of systems of logic with different logical principles, but some of the different logical principles will conflict with each other even while being correct.

The possibility of conflicting correct logics has bearing on issues of recent interest in the epistemology of disagreement. If certain inferences are logically valid in one correct logic and not logically valid in another correct logic, it would seem possible that two epistemic peers could share identical beliefs but apply different correct logics and end up in a disagreement with respect to some proposition. While many philosophers might not find this surprising, and many philosophers have argued that reasonable disagreement between epistemic peers can be rational,⁵⁶ several philosophers have argued that sustained disagreement between epistemic peers is never reasonable.⁵⁷ Philosophers of the latter view hold that if two genuine epistemic peers discover that a disagreement exists between them, then the rational course of action is either to suspend judgment or, in some suitable way, to split the difference between their respective degrees of belief.

⁵⁶ Kelly 2010, Lackey 2010a 2010b, Sosa 2010

⁵⁷ Chiefly Feldman 2005 and Christenson 2007

In this Chapter I have two related objectives. First I describe a novel way in which a reasonable disagreement between epistemic peers can be sustained. For reasons that should already be clear I call the novel version of reasonable disagreement to be described *logically based reasonable disagreement*.

The second objective is to show how logical contextualism satisfies one of the desiderata of an interesting version of logical pluralism discussed in Chapter One; namely it can explain how logical consequence is related to epistemic norms governing belief formation. I argue that there is a general norm guiding doxastic attitudes towards propositions that are logical consequences of other propositions we suspend judgment on, believe, or disbelieve. This general norm applies across contexts. So, as will become clear with further illustration, in a context in which logical consequence is best understood classically, propositions that are classical consequences of propositions that an agent believes should also be propositions that the agent believes. This chapter will, therefore, go some way further to demonstrate not only the coherence of logical contextualism, but that logical contextualism is an interesting version of logical pluralism.

I begin with a survey of some recent developments in the epistemology of disagreement that are relevant to my purposes. I then describe an example of logically-based reasonable disagreement and highlight its salient features. I also discuss some objections to understanding the example I provide as a reasonable disagreement. Finally, I formulate a general epistemic norm governing how we ought to form beliefs based on logical consequences of other beliefs we hold. The general norm operates over different context, but as pointed out, the set of logical consequences varies from context to context. So in different

contexts the norm will oblige agents to form different doxastic attitudes towards some propositions.

4.2 Reasonable Disagreement

4.2.1 What is a Reasonable Peer Disagreement

Disagreements are common. It is a run-of the mill situation for two agents to hold incompatible doxastic attitudes toward the same proposition. Indeed hardly a day goes by where we do not personally encounter a situation in which someone believes a proposition that we disbelieve, or for us to suspend judgment on a proposition that someone else believes, or for us to believe a proposition someone else suspends judgment on or disbelieves.

In addition to being common some disagreements *appear* as if they impose an epistemic obligation for a party participating in a disagreement to revise their beliefs; in other words, some disagreements appear to be *epistemically significant*. Such cases arise where there is some clear cognitive advantage, either in reasoning power or in field specific expertise, for one of the parties in the disagreement. For instance, a child may disagree with an adult about whether it is a good idea to eat all and only chocolate, a young elementary student may disagree with their teacher about whether or not the moon is made of blue cheese, or a non-expert in quantum physics may disagree with an expert in quantum physics on whether it is possible for sub-atomic particles to both have and not have some property in

the same respect at the same time.⁵⁸ In such disagreements there is clearly an obligation for the individual with less reasoning capacity or without field specific knowledge to revise their belief.

It is also clear that not all disagreements are, or even appear to be, epistemically significant. Consider the following example. Jane, Jack, and Jill are siblings who live in New York and whose parents are taking them to visit their grandparents in San Francisco. Jill knows that the flight leaves at 13:00 hours on Saturday. In discussions with Jack she finds out that he believes that the plane departs at 4:30 on Saturday, a fact that he finds quite unpleasant given that he has committed to being at a social event late on the Friday night before the flight leaves. Jack, thus, believes the proposition that the flight leaves at 13:00 is false; he disagrees with Jill. Jill, however, also knows that Jane is playing a well-crafted and elaborate practical joke on Jack that involves producing official looking mock airline itineraries and so forth. If Jack had all the information that Jane has he would not believe that the flight was leaving at 4:30. The important element to note about this case is that the simple presence of the disagreement with Jill does not provide Jack a reason to change his belief that the plane is leaving at 4:30. In other words, disagreements such as the one between Jack and Jill are not epistemically significant disagreements; the mere presence of disagreement does not provide reasons for anyone to revise or even reconsider their belief.

Consideration of cases such as these, and the different epistemic behaviour appropriate in each of the cases, may lead us to wonder if there are any general principles about the epistemic significance, or lack thereof, of disagreement in general. If in certain

⁵⁸ Indeed a quantum physics expert could disagree with another quantum physics expert about this claim. However, the point being made here is about expert and non-expert disagreements.

cases disagreements have epistemic significance and in others they don't are there any general policies about how, when and why we should revise or not revise our beliefs in the face of a disagreement?

It would not be unreasonable to think that the sorts of disagreements just described are not helpful for assessing whether disagreement itself possesses epistemic significance. One reason cases such as this may not be helpful is that the belief revisions warranted or not warranted in each of the above cases can be explained in terms of factors that have nothing to do with the *mere* presence of a disagreement itself. In the first collection of examples the grounds for belief revision can be explained in terms of "testimony from a credible authority," while the examples of the second kind involve "evidential asymmetries" between the participants in the disagreement. In the latter case both agents in the disagreement have strong evidence that their respective beliefs about when the flight's departure time are correct. Indeed, if we suppose Jane to be a fairly crafty trickster, we can imagine her imitating most of the evidence that one should reasonably rely on, such as itinerary e-mails from the airlines, to determine when the flight is leaving. In both these cases the common thread is that disagreement is not required to explain the agent's justification for changing or maintaining their beliefs.

In order to determine whether disagreement itself has epistemic significance a natural approach would be to eliminate any factors that might explain the belief modification (or maintenance) independent of the presence of any disagreement. Consequently some philosophers have contended that we should try to isolate the general principles governing proper epistemic behaviour in the face of a disagreement by considering *idealized*

disagreements. A disagreement is idealized if all the parties in the disagreement are equal in terms of cognitive abilities—that is, they are equal in terms of reasoning power and intelligence—and if all the parties are aware of the same evidence and arguments that bears on the matter over which the disagreement is taking place; that is, in addition to being equal in intellectual capacity there are no evidential or argumentative asymmetries between the parties involved in the disagreement. Finally it is important that the parties in the disagreement *recognize* each other as having the same cognitive capacities and as there being no evidential asymmetries between them. As Jennifer Lackey puts it, “A and B disagree in an idealized sense if and only if, relative to the question whether *p*, (1) A and B are aware that they hold differing doxastic attitudes toward *p*, (2) prior to recognizing that this is so, A and B take themselves to be epistemic peers with respect to this question, and (3) A and B are epistemic peers” (Lackey 2010a p. 303).

A paradigmatic example of idealized disagreement would be the case of two philosophers who are equally familiar with all the arguments and all the evidence bearing on the issue of whether moral facts exist. Suppose these philosophers have deep respect for each other’s contribution to their field. They are in fact, and regard each other as being, highly competent, indeed expert, reasoners who are familiar with all the historical and contemporary arguments, and any other relevant evidence, bearing on the issue of the existence of moral facts. In spite of complete cognitive and evidential equality these two philosophers hold different doxastic attitudes toward the proposition that moral facts exist.

Being idealized such disagreements are not very much like the disagreements that we typically encounter on a day-to-day basis. Even in arguments with those whom we would

consider epistemic peers there typically are slight evidential and cognitive differences that are at play. The agents partaking in the disagreement are often unaware of these subtle cognitive and evidential asymmetries. Thus, rather than complete or perfect cognitive and evidential symmetry many philosophers instead focus their discussion of peer disagreements on cases in which all the parties are *roughly* cognitive and evidential equals. Lackey (2010a, 2010b) calls this sort of disagreement *ordinary disagreement* and says that “A and B disagree in an ordinary sense if and only if, relative to the question whether p , (1) A and B are aware that they hold differing doxastic attitudes, and (2) prior to recognizing that this is so, A and B take themselves to be roughly epistemic peers with respect to this question” (Lackey 2010, p. 304).

Questions about the epistemic significance of disagreement can, thus, be understood as two separate questions. First, they could be understood as being about how rational agents should revise their beliefs when in an ideal disagreement. Second, they could be enquiring as to how agents ought to revise their beliefs in the face of an ordinary disagreement. Since conditions for idealized disagreements are atypical and this chapter is interested in ordinary norms governing agents when they encounter peer disagreements I shall focus on ordinary disagreement.

In the remainder of this section I first discuss some of the main views found in the literature on the epistemic principles governing belief formation in the face of a peer disagreement. I then proceed to discuss two accounts—one due to Ernest Sosa, the other to Alan Goldman—that explain how reasonable peer disagreement may arise. We will extract

certain lessons from Goldman's and Sosa's accounts of reasonable disagreement to illustrate how logically-based peer disagreements can arise.

4.2.2 Epistemic Significance of Peer Disagreements

There are two main sorts of answer to the question of the epistemic significance of ordinary disagreement that one can find in recent literature. First, there are the *conformist* answers. Generally speaking, conformists think that “unless one has a reason that is independent of the disagreement itself to prefer one's own belief, one cannot continue to rationally believe that p when one is faced with an epistemic peer who explicitly believes that not- p ” (Lackey 2010b p. 300). Motivation for this general view can be found in the principle that one ought to regard one's own cognitive credibility the same as one would regard the cognitive credibility of an epistemic peer.

There are variations within the conformist camp. Consider a disagreement among two epistemic peers A and B over a proposition p . One version of conformism due to Richard Feldman (2006) holds that A and B are rationally obliged to withhold belief on p .⁵⁹ Another version of conformism due to David Christensen (2007) and Adam Elga (2007) holds that A and B ought to *split the difference* between their degrees of belief in p . Suppose A believes p to degree 0.8 and B believes p to 0.4. According to Christensen and Elga A and B should split the difference and believe p to degree 0.6. The justification for the view is that genuine

⁵⁹ There are similarities to Feldman's view and the epistemic principles Lackey (2010a) articulates to be reviewed shortly. However, Feldman's view does not factor in how symmetry breakers can result in belief maintenance in the face of peer disagreement

epistemic peers, with equal cognitive capacity and equal evidence, and who regard each other as peers, should weight each other's beliefs equally.

The other main class of answers to the question of how epistemic peers should respond in the face of a disagreement are *nonconformist*. Nonconformists think that disagreements are not epistemically significant. Such disagreements do not provide grounds for the parties in the disagreement to revise their beliefs. There are two different sorts of nonconformist view. One holds that we are justified in giving our own beliefs special epistemic weight—this is called the *egocentric view* (Wedgewood 2007). The other holds that we are justified in giving our view more weight if the belief is the product of correct reasoning (Kelly 2005, 2010). This view is called the *correct reasoning view*.

Yet another class of views is critical of both conformists and nonconformist approaches. Berry Lam (2011), for example, claims that whether or not it is rational to meet halfway when faced with peer disagreement depends on the circumstances. Jenifer Lackey (2010a, 2010b) holds a similar position. Lackey's view is that in disagreements in which an agent's doxastic attitude is strongly justified revision to that doxastic attitude will be small to null, and in disagreements where the justification for the agent's doxastic attitude is significantly weaker the agent's revisions ought to be more substantial. Lackey's position is justified, according to her, on the grounds that it explains conflicting intuitions about what the appropriate response to cases like these,

CASE 1: Estell, Edwin and Jen, who have been room-mates for the past eight years were eating lunch together at the dining room table in our apartment. When I asked Edwin to pass the wine to Estell, he replied, 'Estell isn't here today'. Prior to this disagreement, neither Edwin nor I had any reason to think that the other is evidentially or

cognitively deficient in any way, and we both sincerely avowed our respective conflicting beliefs. (modified from Lackey 2010 p. 306)

CASE 2: Jen, Jill, Jack, and Ramona are out dining together. They all agree to leave a 20% tip and to evenly split the cost of the bill. Jen and Ramona rightly regard one another as peers where calculations are concerned—they frequently dine together and consistently arrive at the same figure when dividing up the amount owed. After the bill arrives and we each have a clear look at it, Jen asserts with confidence that she has carefully calculated in her head that everyone owes \$43 each and Ramona asserts with the same degree of confidence that she has carefully calculated in her head that everyone owes \$45 each. (modified from Lackey 2010 p. 315)

Lackey thinks that in CASE 2 the appropriate response is for Jen and Ramona to revise their beliefs in the direction of each other so that their respective confidence is equivalent (or to split the difference in their confidence in their beliefs). Thus, CASE 2 is regarded as epistemically significant on the grounds that it justifies—indeed a fairly significant—revision in Jen and Ramona’s belief. To the contrary Lackey (2010a) uses CASE 1 as an example of a scenario in which disagreement is not epistemically significant. In CASE 1, according to Lackey, Jen is not warranted in revising her belief that Estell isn’t here today. Jen is, however, warranted in revising her belief that Edwin is her cognitive equal. In this scenario the disagreement is not epistemically significant with respect to the belief over which the disagreement takes place. The disagreement does, however, generate a *cognitive symmetry breaker*. A cognitive symmetry breaker is an event that destabilizes cognitive symmetry between two agents. In CASE 1 Edwin’s not seeing Estell when she is sitting at the table with him is supposed to constitute a cognitive symmetry breaker.⁶⁰

⁶⁰One may plausibly wonder if Lackey’s thought that Jen is forced to revise her view that Edwin is not a cognitive equal comes much too quickly. Suppose Jen has lived with Edwin for eight years and this is the first

Lackey thinks that the conflicting intuitions about appropriate epistemic behaviour in response to CASE 1 and CASE 2 respectively can be explained by the very high degree of justification for the belief that Estell is dinning with Jen and Edwin, on the one hand, and the comparatively lower confidence that Jen and Romana ought to have in their belief that is a result of their post dinner calculations, on the other hand. After all, it is possible that Jen and or Romana made some small calculation mistake and the confidence of their respective beliefs should be sensitive to that possibility. Lackey formulates the two following principles,

No Doxastic Revision: in an ordinary disagreement between A and B, if A's belief that p enjoys a very high degree of justified confidence, then A is permitted to rationally retain her same degree of belief that p if and only if A has a relevant symmetry breaker. (Lackey 2010 p. 319)

Substantial Doxastic Revision Required: in an ordinary disagreement between A and B, if A's belief that p enjoys a relatively low degree of justified confidence, then A is rationally required to substantially revise the degree to which she holds her belief that p . (Lackey 2010 p. 319)

These principles come out of what she calls her *justificationist* view for dealing with peer disagreement. She contends that this view provides the intuitively correct response for addressing the cases just discussed.

Consider an agent who is very highly justified in holding a belief in some proposition p and learns of an apparent epistemic peer who disagrees. On Lackey's view this is grounds

cognitive hiccup of this nature. Or suppose that Estell has asked to be called by another name, or that Edwin and Estell are fighting. Before Jen would be in a position to rationally downgrade Edwin's cognitive status, she would likely have to pursue a fairly lengthy and pointed line of questioning. Indeed, Christensen (2011) notes that Lackey's case elicits some odd intuitions. However, the purposes of the current discussion are simply to present Lackey's views not to evaluate them and the evidence she uses to support them. My main argument and points will not turn on whether Lackey is right about her analysis of this example.

for the agent to revise downwards the status of the apparent epistemic peer. Ernest Sosa (2010) holds a similar view. He claims,

Our ability to reasonably downgrade our opponent based on the substance of our disagreement varies depending on the degree of confidence we have in our side of the disagreement, compared with the independently based confidence that we have as to whether the opponent is our inferior on the matter at hand. (Sosa 2010 p. 294)

There is an additional facet to Sosa's account of the conditions under which reasonable disagreement with an epistemic peer can be sustained. Sosa points out that, at least on one understanding of *reasons*, it is plausible that our reasons "cannot be expounded fully, perhaps because they are too extensive and complex" (Sosa 2010 p. 288). One's reasons are especially likely to be of such a character when the disagreement involves highly controversial issues on publicly unsettled questions such as whether we should substantially reduce the use of substances that produce greenhouse gasses, or on philosophical questions of deep and complicated nature such as the existence of moral facts, theism, or whether there are synthetic a priori truths.

Our basis for believing as we do on such questions generally fails to be fully formed and operative in one fell swoop. Light comes gradually on such questions. A belief forms in us over time through the subtle influences of diverse sources. Some are testimonial, other are perceptual, others inferential, and so on. The belief might owe importantly to the believers upbringing, or to later influence by his community. We are social beings and do well socially and intellectually to rely on such influence by our social and intellectual communities. Such proper reliance over time on divergent communities might thus help explain how disagreement can be reasonable. (Sosa 2010 p. 290)

The point here is that our reasons for many passionately and deeply held beliefs are often unapparent to our conscious minds and evolve over a period of time. Our opponent's reasons might not strike us as compelling grounds to revise our beliefs, but we are unable to put our finger, at the moment, on the exact reasons why they are not compelling.

Sosa develops this account of reasonable disagreement by highlighting certain features of Moore's anti-sceptical argument. Moore famously thought himself to undermine the sceptic's claim that we do not have knowledge by his confidence in his knowledge that he has two hands. When the sceptic claims that Moore might be dreaming, Moore's response is not to claim that "it is obvious that he is awake and not dreaming so that he needs no ulterior reasons for believing so." Rather Moore takes his reasons to constitute 'conclusive evidence' for his belief that he is not dreaming even though those reasons for that belief cannot be fully expounded. Sosa suggests that Moore is not only unable to lay out all of his reasons for believing as he does one by one to a sceptical opponent, but that he even cannot lay out his reasons one by one for himself (Sosa 2010 p. 288). The reason Moore knows that he is not dreaming involve facts about how his wakeful experience dovetails with other wakeful experiences into a coherent whole that is not found in dream experience. Sosa says, "each such fact of dovetailing presumably contributes to the coherence of the stream of consciousness, and may constitute a 'reason' which when combined with others, provides a conclusive justifying basis for the subject that he is awake" (Sosa 2010 p. 289). In a similar fashion the same sorts of reasons can explain reasonable disagreement between epistemic peers over controversial issues. The reasons two peers hold the beliefs that they do may be influenced by many subtle facts, observations, and inferences they have made over a

potentially long period of time; these reasons and the reasons the peers hold may not be, even in the principle, the sorts of reasons that peers are able to make explicit and state even to themselves.

One difficulty that some may find with such a view of reasonable disagreement is that it seems to offer cover for an agent to irrationally avoid a warranted revision in their belief. The agent, when pressed with compelling reasons to revise their belief, could simply hold that the reasons they have in support of their belief defeat the apparently compelling reasons they are being presented for revising their belief. However, it is not obvious that in a disagreement in which one's opponent articulates or even possesses better reasons for their view and against one's own view, one is in fact obligated to revise their beliefs. The rational course of action may be to maintain one's belief, at least temporarily until a full comparison with one's implicit reasons is possible. After all, one's opponent may be quicker or may have spent more time recently thinking through the issue carefully. Given that the arguer is not able to make explicit all the reasons for believing as she does, she is not in a position, at the moment, to compare all her reasons for believing as she does against the reason her opponent has given to believe otherwise. One may regard this as grounds for suspending judgment. This, however, is not clear either. The opponent's reasons may strike one as highly questionable given one's implicit reasons. Thus, it may not be reasonable to even suspend judgment in one's belief.

In addition to agents possessing implicit reasons that can motivate disagreements it is also possible for agents to end up in a disagreement because of the application of *epistemic*

norms in different contexts. An epistemic norm is a policy for doxastic attitude formation.

One rather simplistic example of an epistemic norm would be,

(EN-JI) Believe the negation of any assertion made by National Post columnist John Ivison.

Epistemic norms are part of epistemic systems. An epistemic system according to Goldman is “a set of norms, standards, or principles for forming beliefs” (Goldman 2010 p. 187). It is “a system of rules or norms directed at doxastic attitudes or choices” (Goldman 2010 p. 192).

It will be helpful to look at Goldman’s actual example in order to see how the application of a norm in different context can lead to a disagreement and how such a norm can operate on a wholly implicit level. Goldman explains,

It is common in many cultures for children to be told by their elders that specific sources should be trusted as guides to belief. In religious communities, young children are taught that a certain scripture should be trusted as a guide to the truth about religious matters and historical events, possibly including such things as the age of the Earth and when various species came into existence. The same scripture might be cited as the supreme source on moral matters. Children are in effect given [epistemic norms] with the content: “If the scripture says P, you should believe P.” In scientific educational contexts, students might be given E-norms with the content: “If scientific researchers agree on P, you should assign a high credence to P.” (Goldman 2010 pp. 197-198)

Consider a disagreement between someone brought up in an evangelical Christian educational context and someone brought up in a scientific educational context over the correctness of the theory of evolution. Such a disagreement could be motivated by both agents applying a norm of accepting testimony from communal authorities. Some such testimonial norm is plausibly part of any truth-conducive epistemic system. Such a norm is

also very likely implicit. However, in the case of the member of the Christian religious community it motivates following the derivative norm, “If the scripture says p , you should believe p ” and in the scientific educational community it motivates the norm “If scientific researchers agree on p , you should assign a high credence to p .”

We can here apply Sosa’s point discussed earlier that the reasons we hold certain beliefs may be implicit, evolve over time and, even in principle, may not be possible to spell out explicitly. It is possible that the various instances of testimony from communal authorities that influenced the formation of the beliefs of our Darwinian and anti-Darwinian remain implicit. Just as Moore was not able to make explicit all the reasons he has to think that he is not dreaming, the parties in such a disagreement may be unable to make explicit the role of testimony and of the testimonial norm in their disagreement. And, supposing that testimonial norms are correct epistemic norms, our different agents would be doing everything right epistemically by forming their beliefs as they have through the application of a testimonial norm.

4.3 Logically-Based Reasonable Disagreements

4.3.1 A Logical Epistemic Norm

While Goldman’s example of how a reasonable disagreement can arise as a result of the application, by different agents, of a testimonial epistemic norm other norms could also justify reasonable disagreements. Logical norms, for instance, are just as plausibly part of a correct epistemic system as testimonial norms. Consider the following epistemic norm—that I adopt *pro tem* without argument—for how we ought to form our beliefs toward some

proposition that logically follows from some other proposition(s) in which we have some degree of belief,

(EN-LC) If P is a *logical consequence* of S , then one should hold a degree of belief in P no less than the degree of belief one holds in S .⁶¹

As will become clear adoption of this norm will provide a valuable payoff since it is possible for this single epistemic norm to govern the normative relationship between logic and belief formation in any context. However, before that point becomes clear start by simply noting that the norm is importantly ambiguous when we consider the possibility of at least two logics being correct. If true, it would follow that there is a plurality of ways to spell out (EN-LC). And, given the plurality of ways to spell out (EN-LC) different agents could be justified in having different credal attitudes toward the same proposition. Someone who spelled out logical consequence classically would be normatively prescribed by (EN-LC) to believe p if they were *certain* that $\neg\neg p$. However, someone who spelled out logical consequence intuitionistically would have no obligation to believe α given certainty that $\neg\neg p$. This could lead to scenarios in which a reasonable disagreement is justified by the application of different logical norms.

Recall the ART SHOPPING case discussed in Chapter Two. In ART SHOPPING Ana and Jen have incompatible doxastic attitudes toward the proposition that the painting they are discussing is good art. Ana, on the one hand, believes the painting is good art and Jen, on the other, suspends judgment in that proposition. Both, however, are acting in accordance with (EN-LC). The difference arises because the set of logical consequences, as

⁶¹ (EN-LC) resembles a proposal Field (2009 pp. 349-35) makes for how we should understand implication. A version of this norm was discussed in chapter One p. 20.

argued in Chapter Two, varies with contexts. In Ana's context the audience relevant to her choice will divide art into two classes, good art and not good art.⁶² The reason the audience so divides art is that the aesthetic qualities that are of importance to that audience's evaluation of art are qualities that are clearly identifiable and that a painting determinately either possesses or does not. In Jen's context, however, the audience will not divide art into these two classes. The audience relevant to Jen's context finds certain aesthetic qualities important to good art that a painting may neither determinately possess or nor not determinately possess. As discussed in Chapter Two the audience relevant to Jen's context ought to appreciate art for exhibiting aesthetic qualities such as innovativeness, conceptual originality and so forth. For many works of art it will be unclear whether they possess such characteristics. Indeed for many there may be no fact of the matter as to whether the art has these qualities or does not have them. Consequently, some art may be neither good nor not good in Jen's context.

One point to take note of is that contextual factors are not explicitly involved in an agent's conscious reasons for making the inferences that they do. Jen does not have to be aware that the aesthetic qualities that determine whether art is good art or not in her context are such that they make double-negation elimination incorrect for her context. And Ana does not need to be explicitly aware that the aesthetic qualities used to determine whether a piece of art is good in her context are such that they do not determine for every piece of art that it is either good or not. While an agent certainly could be aware of how their context impacts what inferences are logically correct, they need not be. In fact, typically the relation between

⁶² At least they will come close enough to doing so for practical purposes—for deciding whether a painting would be worthwhile displaying in one's living room for instance.

the context in which an agent operates and the logically correct inferences that the agent makes is not something the agent is consciously aware of. Certainly agents will need to infer in accordance with logical inferences that are correct in their respective contexts. However, making correct inferences does not imply consciousness of the logical rule that they are inferring in accordance with. Being aware ought, therefore, to involve some sort of explicit conscious understanding of the logical inference rule. An understanding that is plausibly absent in many instances in which reasoners are in fact following logical rules. In this respect the logical factors involved in a context are similar to the subtle communal influence of testimony that Sosa claims provides reasons for our deeply held beliefs on many controversial issues.⁶³

It is also clear that Ana and Jen, while following different rules of inference and forming different beliefs, they are acting in an epistemically reasonable fashion. At least they are acting reasonably in so far as they are acting in a manner consistent with (EN-LC).

4.4 The Ambiguity Objection and Its Response

Consider the following objection, to which it will be important to have a response. One may have no problem with the notion that Ana and Jen are acting reasonably. However, where one may see a problem is with the thought that Ana and Jen are in a genuine

⁶³ It is also importantly different from the testimonial case. In the testimonial case a person raised in the Christian evangelical community has the misfortune of being misled by their communal authorities about the correctness of Darwin's theory of evolution, while in the logically based disagreements being considered it is not clear that one is wrong. Perhaps what explains this difference is that, as pointed out by Beall and Restall, Field and DeVidi the concept of logical consequence can be legitimately spelled-out in several different ways so there is no account that is significantly more likely to be right as is the case with the creationism vs. evolution debate.

disagreement. Rather, it might be suggested, Ana and Jen are simply employing different concepts entirely. This objection would regard disagreements like the one between Ana and Jen as similar to a debate about whether banks hold money when one person is talking about a financial institution and the other is talking about a riverside. The charge is that the concept of good art that Ana and Jen were taken to be using is in fact two concepts, one for each of their different contexts. That is, the term ‘good art’ in ART SHOPPING is ambiguous in the sense that it has two different meanings.⁶⁴

It is important for my view that the term ‘good art’ is not ambiguous in the sense that the objector claims it is. I proposed in Chapter Two that the term ‘good art,’ as used by both Ana and Jen, shares the same literal meaning. Earlier we described the meaning of ‘good art’ in terms of the schema (GAG)

(GAG) A piece of art is good art iff it ought to be appreciated for its aesthetic qualities by the relevant audience.

“Aesthetic qualities” and “relevant audience” are concepts that can be made precise in different ways. The contexts in which agents employ the concept of good art saturate the concept by making specific the relevant audience and the relevant aesthetic qualities. In particular, the term ‘good art’ has a literal meaning that quantifies over particular audiences of evaluation. The particular audience being quantified over is information that is supplied by

⁶⁴ According to Kent Bach (1998) “a word, phrase or sentence is ambiguous when it has more than one meaning.” Note that Bach does not state that a concept can be ambiguous. However, it is reasonable to think that a concept can be ambiguous in an analogous fashion. That when one explains what the concept is, gives its definition, so to speak, two or more definitions are required to capture the different concepts rather than one.

context. The truth of the proposition varies from Ana's context to Jen's context. However, this is not because there are different meanings for good art. Rather, in both contexts the meaning of the sentence "*p* is good art" is the proposition that *p* satisfies the standard expressed by GAG (in other words the proposition that *p* is good art). The truth-value of this proposition varies from context to context because, as was surveyed in Chapter Two, the truth-predicates that apply in Ana's and in Jen's contexts differ since correct application of them is subject to different constraints.⁶⁵

This response to the ambiguity objection may appear to adopt a particular standpoint on the semantics-pragmatics distinction. In particular one may think that this response is incompatible with the view that sentence meaning can determine truth-conditions for statements of the form "*p* is good art" or other statements that involve SCLSCSs. I think upon close inspection the view can remain neutral on a variety of different accounts of whether sentences can determine truth-conditions. First, however, it will be worthwhile to briefly survey a criticism of the view that sentence meaning does not determine truth-conditions that is due to Cappelen and Lepore (2005).⁶⁶

John Searle (1980) and Charles Travis (1996, 2008) have advanced a view that sentences do not have truth-conditions nor do they say or express anything. According to Travis,

What words mean play a role in fixing when they would be true; but not an exhaustive one. Meaning leaves room for variation in truth-conditions from one speaking to another" (Travis 1996, p. 451).

⁶⁵ See Chapter Two pp. 87-108.

⁶⁶ Another criticism of the radical pragmatist arguments for the view that there are no context-independent truth-conditions can be found in Montminy 2010.

And, Searle claims that,

. . . in general the meaning of a sentence only has application (it only determines a set of truth-conditions) against a background of assumptions and practices that are not representable as a part of meaning. (Searle 1980 p. 221)

Often the case for this view is based on considering examples of grammatically correct sentences that are semantically incomplete. An example of such as sentence is

(1) Ted opened the door.

In (1) it is quite unclear how Ted opened the door. He did not open it in the same way that he opens his eyes, or in the same way that he opens a can of soda. He did not open it the same way he opened the door to his mind at last night's yoga class, or the way his education opened up doors to his future. How do we know how to understand utterances of (1) when there are so many different ways of understanding what 'opening' and even 'opening a door' involves? The thought is that (1) has no context-independent truth-conditions. We need, so the thought goes, a wide array of background information about what sort of opening (and what sort of door) we are talking about in (1) before we can make any determination about the conditions under which (1) is true.

Montminy (2010) points out that this line of reasoning constituting a fallacy that he calls *the fallacy of the many understandings*. The fact that sentences like (1) "are understood in different ways in different contexts does not mean that [sentences like (1)] lack-context independent truth-conditions" (Montminy 2010 p. 323). It is perfectly compatible for there to be different ways that (1) can be understood in different contexts and for (1) to fix the

conditions under which (1) could be evaluated as either true or false. One way to offer such conditions that Capellen and Lepore (2005) entertain is to through the disquotational schema. Consider, for instance, the disquotational schema as applied to (1),

(DS-1) “Ted opened the door” is true if and only if Ted opened the door.

In the case in which Ted is a teacher opening the door to his student’s minds and in the case where Ted is simply opening the screen door to his patio (DS-1) still captures a set of truth-conditions for (1). There are not clearly any cases in which the truth of the left-hand side of (DS-1) disagrees with the truth of the right-hand side of (DS-1). In a context in which Ted is a teacher (DS-1) still holds for that context, just as it would in the context where Ted opened the screen door. So someone who regards the disquotational schema as expressing the truth-conditions of sentences is not holding a position that is incompatible with sentences having different understandings in different contexts.

So how does this impact a consideration of the use of the concept of good art in ART SHOPPING? The sentence under question would be

(2) The painting is good art

Someone sympathetic to the view of Capellen and Lepore might claim that the DS associated with (2) could appropriately characterize truth-conditions for (2).⁶⁷ However, that does not present any particular difficulty for (2) being true in Ana’s context and not true in Jen’s

⁶⁷ Montminy thinks that sentences of the form “a is F” where F is a comparative adjective lack context independent truth-conditions (Montminy 2010 p. 326) and, therefore, on my reading at least, would disagree with Capellen and Lepore about the claim that every sentence that do not have obvious indexicals or demonstratives have context-independent truth-conditions.

context. While an utterance of the right-hand side of the DS associated with (2) is warranted in Ana's context, it is not in Jen's. Thus, the sentence (2) is true in Ana's context, but not in Jen's by (DS-1). So the truth-conditions of sentences could be captured by the (DS) without undercutting the general story I am telling about how information from Ana's context and Jen's context result in different conditions under which an utterance of the right-hand side of the DS associated with (2) is warranted. In Jen's context we cannot satisfy the right-hand side of the DS for (2), but we can in Ana's. It does not follow from this difference that my account of the use of the term 'good art' in ART SHOPPING is committed to denying that sentences have no context-independent truth-conditions.

Recanati (2004) finds Lepore and Capellen's move whereby truth-conditions of sentences are specified purely by the DS to be an

. . . unacceptable weakening of the notion of truth-condition. The central idea of truth conditional semantics . . . is the idea that, via truth, we connect words and the world. If we know the truth-conditions of a sentence, we know *which state of affairs must hold for the sentence to be true*. [DS]-sentences display knowledge of truth-conditions in that sense only if the right-hand side of the biconditional is *used*, that is only if the necessary and sufficient condition which it states is transparent to the utterer of the [DS]-sentence. (Recanati 2004 pp. 92-93)

While I am sympathetic to Recanati's view about the DS weakening the conception of truth-conditions, the point that I want to make is simply that my response to the ambiguity objection—that is, the response that the term 'good art' quantifies over audiences depending on the context in which it is uttered—is not incompatible with the notion that sentences have context independent truth-conditions.

Thus, I suggest, my view is neutral on the issue of whether sentences can determine context independent truth-conditions. And, thus, my response is compatible with a variety of different positions on whether or not sentences can determine truth-conditions. What is essential to my position is that the truth of the proposition that *p* is good art varies from Ana's to Jen's context not that the sentence "*p* is good art" has no truth-conditions that are independent of context.

Having explained why I think my view is neutral on the issue of whether sentences determine truth-conditions, I can now return to more discussion of my response to the ambiguity objection. We have seen that my response amounts to the claim that 'good art' as used by Ana and Jen has the same meaning. Contextual information supplements the meaning in various ways. However, this is not to deny that the term means the same thing. The standard definition of an ambiguous term or phrase is a term or phrase that has more than one meaning.⁶⁸ It is especially important to distinguish the phenomenon of ambiguity clearly since terms and phrases can have a variety of different uses without being ambiguous. Implicatures are classic examples of phrases and words that are used to convey different meaning than what they mean when taken literally. Other examples of phrases whose meaning can vary from their literal meaning are colloquial expressions. For instance the statement, "it is what it is" in logic or in a lecture on Aristotle may be a tautological statement about the nature of self-identity. However, the colloquial use of this expression conveys something to the effect of *it is better to accept something that can't be changed rather than to resist it*. Note, though, that from the fact that this phrase has two different uses

⁶⁸ See Brendon S Gillon (1990) and Kent Back (1998)

it does not imply that it, or that any of its constituents, are ambiguous. Simard Smith and Moldovan explain,

In general, to say that a word has various *uses* is not yet to say that it is ambiguous. . . . A plurality of uses need not be explained by postulating various independent literal meanings, that is, ambiguity. In some cases the best explanation could be pragmatic. (Simard Smith and Moldovan 2011 pp. 233-234)

Indeed there are a variety of linguistic phenomena that ambiguity is often confused with.

Kent Bach points out,

...gratuitous claims of ambiguity can make for overly simple solutions. Accordingly, the question arises of how genuine ambiguities can be distinguished from spurious ones. Part of the answer consists in identifying phenomena with which ambiguity may be confused, such as vagueness, unclarity, inexplicitness and indexicality. (Bach 1998)

The concept of good art has an open texture that allows different contexts to specify different aesthetic qualities that ought to be appreciated by different relevant audiences. Admittedly, it is different from the paradigmatic indexicals such as 'I', 'here', 'now,' 'tomorrow,' etc. For instance, it is conceptually richer than the traditional indexicals. While the traditional indexicals such as 'I' or 'here' include in their meaning something like a "slot" for a specific speaker or a place that is to be contextually supplied, conceptually there is not much more to the meaning of traditional indexicals than a rule to specify a speaker, time, or place. On the contrary the concept of good art not only provides a sort of rule to specify an audience and a set of qualities that are contextually supplied, it is also normative for art. Classical indexicals, in general, are not normative in any way. Moreover, the contextual information supplied in uses of the term 'good art' is more plausibly implicit than is the contextual information in

classical indexicals. It is more like the sort of contextual sensitivity involved in expressions such as “Ted is large.” The term ‘large’ could mean large for a person, large for a dog, or large for a member of the Saskatchewan Roughriders offensive line. So, while the concept of good art is not quite an indexical it does have elements of contextual sensitivity. However, this sensitivity should not be confused with ambiguity.

4.5 The Non-Epistemic Peer Objection

Another potential objection to this analysis of ART SHOPPING is that Ana and Jen ought not to be thought of as epistemic peers. Rather Jen is epistemically superior in this case given her extensive experience as an art curator. We ought to defer to people like Jen in order to determine whether a piece of art is good or not. Thus, the reasonable course of action for Ana is to suspend her judgment on the matter if she is to be reasonable. This argument, however, is only plausible in so far as Ana and Jen are not epistemic peers. But that is not at all clear. At least Ana and Jen may very well be equal in terms of their cognitive and evidential capacity to determine whether a painting ought to be appreciated for its aesthetic qualities by the relevant audience. In other words, they are both epistemic peers about assessing good art. They are equally reliable at making determinations of whether a work of art possesses the needed aesthetic qualities that ought to be appreciated by a relevant audience. The difference between Ana and Jen is that the relevant audience and aesthetic qualities varies for their respective contexts, and thus, the class of good artworks varies for Ana and Jen. So, even if one feels that renowned curators are precisely the people we should

defer to it is still possible to motivate the overarching point about how peers can reasonably disagree about whether a piece of art is good.

This line of reasoning may strike some as implausible. After all renowned art historians are presumably among the people that ordinary art purchasers ought to defer to in judgments about good art. However, even if one is not convinced that Ana and Jen are peers with respect to judgments about good art, the overall point that reasonable disagreements with peers can have a logical basis can still be supported if we consider the modified ART SHOPPING case discussed in Chapter Two, or if we consider disputes over the concept of moral acceptability discussed in Chapter Three. In both these examples the disagreeing parties would share equal levels of intelligence. In the modified ART SHOPPING example we considered the possibility of a disagreement arising between equally renowned art curators who have different relevant audiences of evaluation. Jen and Ana were equally successful art experts who operated in contexts which differed over the validity of *ex falso quodlibet* inferences. One of the examples of an SCLSCS discussed in Chapter Three was the concept of MORAL ACCEPTABILITY. We saw how agent's operating in a context that supported a rights-based approach to moral acceptability could differ over the validity of double-negation elimination with agent's operating in a utilitarian-like context. These agents would be in disagreements over judgment about moral acceptability that followed from a double-negation-elimination.

Let us return to the case where we are taking Ana and Jen to be peers with respect to determining good art relative to their respective contexts. Coupled with the observation noted earlier that context is often implicit it becomes sharper how the ART SHOPPING is a

reasonable disagreement. While Ana and Jen disagree over whether the painting is good, they may not be aware of the role that context has in determining the logical inference rules that factor into the determination of whether the painting is good.⁶⁹ In such a circumstance both Ana and Jen will find the other's assessment of the painting misguided even if they can't put their finger on the exact reason.

The same point can be extended to the case discussed in Chapter Three in which different context rendered different inferences about the concept of MORAL ACCETABILITY valid. Our background moral beliefs and attitudes are very plausibly implicit, form slowly over time, and are not the sort of thing that we can precisely put our finger on and bring forward in many disagreements over moral issues. These implicit views as pointed out in Chapter Three could very well support a context that renders inferences valid for some that are not valid for others, and thus, could very well produce logically-based reasonable disagreements.

4.6 Why the Conformist Account Fails?

The discussion of the ART SHOPPING example in this chapter is meant to illustrate one way that a reasonable peer disagreement can be sustained. As one would have gathered there are other ways discussed by Lackey, Goldman and Sosa that illustrate how such a phenomenon is possible. The existence of logically based reasonable disagreements adds to the mounting evidence that, at least in some circumstance, splitting the difference or withholding judgment in light of peer disagreement is epistemically misguided.

⁶⁹ Ana and Jen simply need to infer in accordance with correct inference rules in the context. They do not need to do so deliberately or consciously. They simply need to infer or not infer in accordance with, for instance, double-negation-elimination. Moreover, it is important that in their respective contexts those inferences are correct.

One may wonder why “splitting the difference” is an incorrect response in ART SHOPPING and other similar disagreements. Splitting the difference would mean adopting a doxastic attitude for Ana and Jen incompatible with (EN-LC). And, presuming that one is interested in acting in an epistemically reasonable fashion, splitting the difference would amount to an epistemically unreasonable belief forming practice. In ART SHOPPING Jen suspended judgment about the goodness of the painting that was discussed with Ana, while Ana believed the painting is good. Given their context those are the appropriate and correct attitudes for Ana and Jen to hold. Should Jen move her degree of belief up in the direction of Ana’s, closer to full belief, then she would hold a degree of belief in the painting being good art—presuming that she has no further evidence about the paintings goodness—that is not justified by the application an appropriate epistemic norm of belief formation. Thus, in a real sense, her belief would not be rational. It would conflict with a correct epistemic norm. For Ana, if she lowers her degree of belief closer to that of Jen’s, then she would hold a degree of belief in her conclusion that is less than her degree of belief in the premises and, therefore, she would be violating (EN-LC).

Our discussion here has also illustrated how epistemic norms are related to logical consequence. Recall the discussion in Chapter One on how an interesting version of logical pluralism has the capacity to clarify how the norms for belief formation link up with logical consequence. That is, what doxastic obligations do we have when a proposition logically follows from other propositions we believe, disbelieve or suspend judgment in? In the previous section it becomes evident how the version of logical contextualism developed in Chapter Two and Three can satisfy that component of a sufficiently interesting version of

logical pluralism. There is one general norm that prescribes what doxastic attitudes an agent ought to adopt when some propositions they believe entail some other propositions. The epistemic norm (EN-LC) told us that one's degree of belief in the premises of a logically valid argument ought to be equal to or less than one's degree of belief in the conclusion. Logical contextualism, as has been discussed, however, allow " q is a logical consequence of p " to be true in some contexts but not true in others. Thus, in contexts in which it is true (EN-LC) will prescribe that one ought to believe q , whereas in contexts where it is not true (EN-LC) will not prescribe any particular doxastic attitude toward q and other norms will need to be employed if the agent wants to form some doxastic attitude toward q . It is clear from this relationship between (EN-LC) and logical consequence how it can be possible for two agents with the same beliefs, but who are operating in different contexts, to have different attitudes towards some proposition that is entailed by the shared beliefs in one context but not the other. Thus, logical contextualism does offer a satisfactory explanation of how epistemic norms connect up with logical consequence.

4.7 Comparison With Lackey's Account

Recall that Lackey thought that there were two epistemic principles that could be extracted from consideration of CASE 1 and CASE 2. In CASE 2 Lackey claimed that a revision of beliefs was epistemically warranted. However, no such revision is warranted in CASE 1. The general reason behind these conflicting intuitions, Lackey claims, is that in cases similar to CASE 1 we can have a higher degree of confidence that our beliefs are true

than we can in CASE 2. Therefore, Lackey draws the following lessons from consideration of these and similar cases,

First, the cases where nonconformism clearly provides the correct result are ones where there is a symmetry breaker between one's epistemic peer and oneself that is provided by the presence of the personal information combining with a highly justified confident belief. . . . Second, the cases where conformism clearly provides the correct result are ones where there is a relatively low degree of justified confidence such that the positive support provided by personal information is insufficient for breaking the epistemic symmetry between one and one's epistemic peer. (Lackey 2010a pp. 318-319)

Lackey uses these two lessons to formulate the principles of belief revision and belief maintenance mentioned earlier in this chapter. The first lesson is used as the basis to formulate the No Doxastic Revision Required principle and she uses the second lesson as the basis for formulating the Substantial Doxastic Revision Required principle. Of course there are supposed many cases that fall somewhere on the spectrum between these two principles. As Lackey says, "If, say, A's belief that *p* enjoys a moderately high degree of justified confidence, then merely some doxastic revision may be required in the face of ordinary disagreement with an epistemic peer" (Lackey 2010a p. 319).

There are few differences with logically based reasonable disagreement and the examples of disagreements considered in the epistemology literature thus far. Some of these differences, I think, mean that Lackey's principles are in need of revision.

First, one element of the disagreement in a logically based reasonable disagreement is a difference over the logical inferences the agents involved in the disagreement are making. In one sense, considering the ART SHOPPING example, Ana and Jen could be understood as

disagreeing over the correct logical principles to employ for reasoning with good art. So this seems to be a disagreement over the correct logical inferences. It would be possible to explain the ART SHOPPING case focusing in on this disagreement. Jen could be seen as questioning the legitimacy of Ana's inference to the conclusion that p is good art from the negation of the negation of that claim on the grounds that double-negation elimination is not logically valid for reasoning about the concept of good art. Ana could in turn disagree with Jen and claim that "double-negation elimination is a perfectly valid principle for reasoning about good art." In this case the disagreement is not so much logically based. Rather the disagreement is grounded in the way different inferences are rendered logically valid by features of divergent contexts. While not quite "logically-based," such disagreements are reasonable disagreements about the logical validity of inferences.

There are a couple reasons for proceeding as I did and focusing my discussion on disagreements over the truth-value of a proposition as opposed to the validity of an inference.⁷⁰ First, much of the epistemic literature on peer disagreement does not focus on disagreements about the validity of logical principles, but on disagreements about the truth-value of particular propositions. In my discussion I followed the traditional discussion in the literature and illustrated how disagreement arises in ART SHOPPING over the truth-value of a proposition as a result of an inference being rendered logically valid in one disagreeing agent's context and not rendered valid in another's. However, the discussion could have proceeded differently.

⁷⁰ Of course it would be possible, and interesting, to consider a disagreement over the proposition that the principle of double-negation-elimination is logically valid for reasoning about good art. I am not sure what this would gain over simply saying that the disagreement is over the validity of a purported principle of logic. To me these seem to amount to the same thing.

Second, and more importantly, ordinary agents reasoning in ordinary situations are often not conscious of the logical inference rules they employ. Indeed it is even possible that they could believe that logic gets things all wrong in some important way. So, in ART SHOPPING—even if unaware of or completely antagonistic to principles of logic—Ana and Jen are reasoning correctly. All that matters is that they reason in accordance with principles rendered logically valid (or not valid) by their respective contexts. Given that an agent's are typically unaware of the role that logical rules play in their reasoning a disagreement over principles of logic in ART SHOPPING, while an important component of the example, is artificial. Therefore, in the spirit of better understanding ordinary disagreements and how they can have logical roots, it is more helpful to explore how agents come to have logically grounded disagreements over the truth-value of a proposition.

The possibility of logically-based reasonable disagreements should also make clear that Lackey was misguided in her view that cognitive symmetry breakers are required in cases in which we are justified in maintaining our beliefs on the basis of reasonable peer disagreement. Unlike Lackey indicates in her principles of doxastic revision for peer disagreements, in ART SHOPPING, and in other reasonable peer disagreements that have a logical basis, there is no need to assume that one agent has less cognitive capacities or less evidence than the other (especially, if needed, think of the modified ART SHOPPING in which Ana is an art curator as well but who still has a different audience than Jen). Therefore, Lackey's principles intended to capture the epistemic significance of peer disagreement are importantly incomplete.

4.8 Conclusion

I have described one way in which a reasonable disagreement between epistemic peers can be sustained as a result of a divergence in the correct logic appropriate for the contexts in which the epistemic peers are operating. Logically based reasonable disagreement offers another counter example to the prevalent view that reasonable disagreement can never be sustained and that when two peers are in a reasonable disagreement they must split the difference in their degree of belief or suspend judgment in their respective beliefs. Agents act reasonably when they appropriately apply logically valid inferences and believe the logical consequences of their existing beliefs (or revise existing beliefs appropriately). But since correct logical inference rules vary with context it is possible for an agent to be obliged to form a belief in one context that another agent is not obliged to form in another context. Thus, it is clear how one agent can rationally believe in a proposition that is a logical consequence of a set of beliefs, whereas a different agent who holds the same beliefs need not rationally believe in that proposition. Our description of logically based reasonable disagreement, therefore, not only points out one way that reasonable peer disagreement can be sustained, but also how logical contextualism has a plausible account of how epistemic norms fit with logical consequence.

Chapter 5

Logically-Based Reasonable Disagreements in Argumentation⁷¹

5.1 Introduction

It is commonly thought that the overarching aim and purpose of argumentation is to resolve a difference of opinion with another person, or group of people, by rationally persuading the other(s) to change their commitments or beliefs toward the contested proposition or nexus of propositions. This view about the purpose of argumentation is common both among argumentation theorists and everyday practitioners of argumentation. Among argumentation theorists, this view involves the idea that a rational resolution to a difference of opinion requires a reason informed revision of commitments or beliefs by one or both of the parties engaged in the argumentation so that all of the parties commitments or beliefs are aligned (Walton and Krabbe 1996, Van Eemeren and Grootendorst 2004, Godden 2010, Johnson 2000). In this chapter I argue that logically-based reasonable disagreements offer a counterexample to the widespread view that the primary purpose of argumentation is to achieve a rational consensus that resolves the difference of opinion. I take up a suggestion by Johnson that one purpose of argumentation is to augment overall rationality. However, on

⁷¹The Oxford English Dictionary defines the term 'argumentation' as "the action or process of reasoning systematically in support of an idea, action, or theory." This definition is in line with recent scholarly definitions of the term that can be found in Ralph Johnson, John Woods, Frans van Eemeren, Erik Krabbe *et al* (1996) in which argumentation is defined as "a verbal and social activity of reason aimed at increasing (or decreasing) the acceptability of a controversial standpoint for the listener or reader, by putting forward a constellation of propositions intended to justify (or refute) the standpoint before a rational judge." The term 'argumentation' is often used as a term of art with a count noun sense that can allow the term to identify a particular exchange of reasons between two or more agents over a controversial standpoint. An example of such a use of the phrase would be in the sentence, "Jack and Jill had an argumentation about whether global warming is caused by human beings."

Johnson's account this is a peripheral purpose of argumentation. I reverse the order of Johnson's position claiming that the primary purpose of argumentation is to increase rationality. Unlike understanding the purpose of argumentation to be reasoned persuasion, understanding the purpose of argumentation to be increasing overall rationality, I argue, is compatible with the existence of argumentations that involve logically-based reasonable disagreements. Argumentations that revolve around such disagreements, even if they will not lead to any kind of consensus, can lead to an increased understanding of the reasonability of divergent perspectives and, thus, an overall increased understanding of the rational terrain surrounding a contested issue. Therefore, the point of argumentation is not consensus, but an exploration and elucidation of the—to use a Sellarsian turn of phrase—“space of reasons.”

The account of the purpose of argumentation developed here supplements feminist critiques of the “adversarial paradigm” in philosophy⁷² as well as some recent feminist discussions of argumentation theory.⁷³ If the purpose of argumentation is understood as an effort to persuade another person or group of people to adopt views that are aligned with one's own view, then one's partner in argumentation becomes an “opponent” with whom one is playing a game. The purpose of this game is to “win” by exposing errors in the other agent's reasoning, or by showing one's own view to be “superior” since it is backed-up by better reasons. However, given the possibility of different reasonable viewpoints that are mutually inconsistent, argumentation should not be understood in this adversarial fashion. Rather it is better to think of argumentation as a collective effort of aiming to increase the overall level of rationality. The purpose *should be understood* as an effort to better

⁷² For instance, Janice Moulton (2003)

⁷³ For instance, Trudy Govier (1999), Hundleby and Rooney (2010)

understand different viewpoints, without the need for any consensus to arise out of the argumentation.⁷⁴ What is required in argumentation is a presentation and examination of the pro and con reasons for a position in the hopes of arriving at a better understanding of the rational landscapes available surrounding a controversial viewpoint. In the process one of the parties in the argumentation may indeed discover that a different position from their own better fits with the rest of their beliefs or is better rationally supported and, consequently, may desire to change their view. However, generating a change in view is not the *raison d'être* of argumentation. Instead argumentation ought to be thought of as an activity in which participants bounce ideas and exchange reasons for and against divergent points of view in order to better understand what rational grounds are available that allow others to hold different views. Such a conception of argumentation's purpose not only explains cases in which a consensus arises, but also cases in which no consensus can arise. Thus, I will be drawing the bold conclusion that all argumentations ought to be understood as aiming for better understanding of the available rational space surrounding an issue, not just argumentation in which there are reasonable disagreements. In certain cases, such as arguments in physical science or arguments in areas where there is overwhelming evidence for a clear conclusion, agents who do not revise their beliefs in light of evidence will not be holding themselves up to norms of reason. However, they will not, simply because they do not change their mind, be in violation of norms of argumentation. Furthermore, it may turn

⁷⁴ The claim I am making here and develop in this chapter should be understood as primarily normative. That is, we should understand argumentation differently than we do both in academic studies of argumentation and in everyday argumentative practice. As will be developed I think the conception of understanding advocated is one that does not rule out cases of argumentation that its rival does. Therefore, it is a better understanding of argumentation given the evidence, but it is also better since it produces better argumentative practice.

out that engaging in an argumentation with such agents is not very helpful since it does not augment rationality and produce a better understanding of the space of reasons surrounding the contested issue. However, the reason for this is not because their mind is not being changed, but because they are not a helpful conversational partner open to good arguments or who have good arguments to offer. Therefore, I adopt the broad conclusion that all argumentations have the primary goal of augmenting rationality rather than the narrow conclusion that only some argumentations have as their primary goal the augmentation of rationality.

The plan for this chapter will be as follows. To set the stage I discuss some existing accounts of the purpose of argumentation. In particular I discuss different conceptions of a rational resolution to a difference of opinion. This sort of view, which I call the standard view, is common not only among argumentation theorists, but among everyday practitioners of argumentation. Next I show how logically-based reasonable disagreements generate a challenge for this account of the purpose of argumentation. Argumentations that are precipitated by such disagreements do not result in consensus, but they do achieve a form of resolution. I explain how argumentation can facilitate a certain pattern of contextual reasoning known as a *shifting*⁷⁵ that is blocked in logically-based reasonable disagreements prior to the disagreeing agents engaging in argumentation. While agreement does not arise between parties who engage in an argumentation precipitated by a logically-based disagreement, shifting makes possible an inferential move which allows agents to understand the reasonability of the alternative viewpoint under consideration. Therefore, even if the

⁷⁵Benercetti *et al* (2008)

agents in the argumentation are not in agreement, they will become aware of a rational basis for why they ought to be tolerant of the alternative point of view. This newfound tolerance, I contend, is a form of successful resolution to an argumentation. I argue that one important implication of there being argumentations that successfully resolve without consensus is that we ought to regard the purpose of argumentation as increasing the overall understanding of the rational landscape—or “the space of reasons”—surrounding an issue. Finally, I explain how conceptualizing argumentation as expanding overall rationality can function to move philosophy away from the grips of the paradigm of the adversarial method described in Moulton (2003)⁷⁶ and how it can contribute to a more collaborative and less confrontational spirit when engaging in argumentation generally.

5.2 Pragma-Dialectics and Consensus as the Ends of Argumentation

Argumentation is “a verbal social activity . . . aimed at increasing (or decreasing) the acceptability of a controversial standpoint for the listener or reader, by putting forward a constellation of propositions intended to justify (or refute) the standpoint before a rational judge” (van Eemeren, Grootendorst, Snoek Henkemans, et al. 1996). A key component of this definition is that argumentation is a *social* activity. As a social activity it is distinct from an argument, which is a type of abstract object (Simard Smith and Moldovan 2011). Arguments may be used in an argumentation. However, arguments may also be used in solo reasoning or problem solving.

⁷⁶ As well as Rooney 2010

I show that in each of the models of argumentation considered, the purpose of an argumentation is to achieve a rational consensus. Such a consensus occurs when there has been either an appropriate change of commitment or an appropriate change of belief. These models are among the most influential models of argumentation and have significantly contributed to the development of argumentation theory over the past thirty years. Thus, an examination of the various models will suffice to show that understanding the purpose of argumentation as rational consensus has established itself as a sort of paradigm in the field—a paradigm that I will challenge in the following section.

5.2.1 Pragma-Dialectics

Van Eemeren and Grootendorst (2004) pioneered what they call pragma-dialectics, which has become an influential account of argumentation. Pragma-dialectics formulates an idealized model of critical discussions (PD-model). A critical discussion is a discussion whose goal is to bring about a resolution to a difference of opinion.

Van Eemeren and Grootendorst constructed the PD-model of argumentation with overarching meta-theoretical principles in mind: externalization, functionalization, socialization, and dialectification. *Functionalization* “treats every language activity as a purposive act.” *Externalization* focuses the argumentation analysts “on the public commitments entailed by the performance of certain linguistic activities.” *Socialization* “relates these commitments to the interaction that takes place with other people through the language activities in question.” *Dialectification* means that all the language activities are

regarded “as part of an attempt to resolve a difference of opinion” (Van Eemeren and Grootendorst 2004 pp. 52-53).

The PD-model consists of four different stages that must be passed through to successfully resolve a difference of opinion through argumentation, and a set of rules that participants must follow in order properly engage in argumentation. The rules are rather predictable statements of the requirements of productive and fair-minded debate—e.g. “don’t prevent others from advancing their views,” or “offer a defense for views advanced,” etc. More interesting for us are the stages.⁷⁷

The four stages are as follows: the confrontation stage, the opening stage, the argumentation stage, and the concluding stage. At each stage different speech acts can be employed to move through the stage and progress to the subsequent stage. When the concluding stage is complete at least one of the agents participating in the argumentation must revise their commitments so that they are consistent with the results of the argumentation. The Confrontation stage of a critical discussion occurs when it becomes clear

⁷⁷ The complete and exactly stated list of the PD-rules is as follows:

Rule 1: Parties must not prevent each other from advancing standpoints or from casting doubt on standpoints. *Rule 2:* A party that advances a standpoint is obliged to defend it if asked by the other party to do so. *Rule 3:* A party’s attack on a standpoint must relate to the standpoint that has indeed been advanced by the other party. *Rule 4:* A party may defend a standpoint only by advancing argumentation relating to that standpoint. *Rule 5:* A party may not disown a premise that has been left implicit by that party or falsely present something as a premise that has been left unexpressed by the other party. *Rule 6:* A party may not falsely present a premise as an accepted starting point nor deny a premise representing an accepted starting point. *Rule 7:* A party may not regard a standpoint as conclusively defended if the defense does not take place by means of an appropriate argumentation scheme that is correctly applied. *Rule 8:* A party may only use arguments in its argumentation that are logically valid or capable of being validated by making explicit one or more unexpressed premises. *Rule 9:* A failed defense of a standpoint must result in the party that put forward the standpoint retracting it and a conclusive defense of the standpoint must result in the other party retracting its doubt about the standpoint. *Rule 10:* A party must not use formulations that are insufficiently clear or confusingly ambiguous and a party must interpret the other party’s formulations as carefully and accurately as possible. (van Eemeren, Grootendorst, Snoeck Henkemans pp. 283-284)

that a standpoint adopted by a protagonist is not accepted by an antagonist because it “runs up against doubt or contradiction, thereby establishing a difference of opinion” (van Eemeren and Grootendorst 2004, p. 60). In the Opening stage the parties involved in the argumentation “find out how much relevant common ground they share” (van Eemeren and Grootendorst 2004, p. 60). In the Argumentation stage the “protagonists advance their arguments for their standpoints that are intended to systematically overcome the antagonist’s doubts or to refute the critical reactions given by the antagonist. The antagonist considers whether the argumentation that is advanced is acceptable. If they consider the argumentation, or parts of it, not completely convincing, they provide further reactions, which are followed by further argumentations by the protagonist, and so on” (van Eemeren and Grootendorst 2004 p. 61). The Concluding stage of an argumentation is the point of the critical discussion in which the parties assess the results of their efforts to resolve their difference of opinion. According to van Eemeren and Grootendorst “the difference of opinion can only be considered resolved if the parties are, concerning each component of the difference of opinion, in agreement that the protagonist’s standpoint is acceptable and the antagonist’s doubt must be retracted, or that the standpoint of the protagonist must be retracted” (Van Eemeren and Grootendorst 2004 p. 61).

It is apparent that resolutions to argumentations, according to the PD-model, will occur only when the proponent of the controversial standpoint expresses doubt about the standpoint or the opponent of the standpoint expresses support for it. The view that a difference of opinion is only resolved through agreement between the opposing parties is also clearly stated in the following passage,

The model [of critical discussion] is based on the premise that a difference of opinion is only resolved when the parties involved in the difference have reached agreement on the question of whether the standpoints at issue are acceptable or not. This means that one party has to be convinced by the argumentation of the other party of the admissibility of that party's standpoint, or that the other party retracts his standpoint because he realizes that his argument cannot stand up to criticism. (van Eemeren and Grootendorst pp. 57-58)

The above quotations make it apparent that van Eemeren and Grootendorst think that an argumentation cannot have a successful resolution without an agreement being reached. It is not possible for an argumentation to progress through the concluding stage while there is still a disagreement between the proponent and the antagonist over the controversial viewpoint.

However, one problem with the PD-account that can now be pointed out is that the notion of agreement is not analytically part of the notion of "resolution of a difference of opinion." After all, there are many ways to resolve differences of opinion in which the parties of differing opinion maintain their disagreement. For instance, labour negotiations are occasionally sent to an arbitrator whose final decision both parties commit to following in advance even if they maintain their disagreement about what they think the final decision should be. Similarly, in majority rule an organization decides to follow the will of the majority of its voting members even if there remains a difference of opinion between the majority and some other members.

vanEemeren and Grootendorst may reply that argumentation is different than the examples just considered since argumentation aims to resolve a difference of opinion through rational means. The participants in an argumentation agree that the *force of the better reason* is to determine the resolution. Whichever perspective on the contested issue for which the

best reasons have been given is the perspective the participants in an argumentation ought to adopt.

However, in principle it is possible that the participants in an argumentation could come to realize that both their opponent's and their own position are reasonable and that neither one of the views has "better" reasons that favour it. At least this seems possible if we acknowledge the possibility that reasonable people can have a legitimate disagreement even after a robust presentation of their respective reasons for their differing opinions. Moreover, such an occurrence fits with the spirit of what it means to say that a resolution to the difference of opinion has been arrived at. If both parties recognize the rationality of their opponent's perspective, then it is fair to say that the difference between them has been resolved, since both the proponent and the opponent can be satisfied that (i) they have established that they are rationally entitled to maintain the position they do and (ii) that they have exhausted their reasons for holding their respective views. In this sort of situation the argumentation can go no further and both parties can end the discussion satisfied that they have produced an understanding of each other's positions.

In Chapter 4 I explained one way that reasonable disagreements can arise even after epistemic peers have fully exhausted the reasons for holding their divergent opinions. In particular I explained how peers whose contexts render different inferences valid can both be reasonable since there is often no fact of the matter as to whose context is appropriate. Later in this chapter I will explain how this sort of scenario may factor into argumentations. For now though it is worthwhile to note that a modified version of the PD-model seems possible even if agreement is not a necessary condition for a resolution to a difference of opinion.

Some of the rules for how argumentations ought to proceed may need minor modifications. However, these modifications as far as I can tell would not lead to any major revisions in the theory or the theoretical approach of pragma-dialectics.⁷⁸

5.3 Other Standard Accounts of Argumentation

The Pragma-Dialectic model is not the only influential account of argumentation. There are several alternative views. However, even among the major alternative accounts of argumentation, agreement is treated as a necessary condition for a successful resolution to an argumentation. I discuss briefly three further alternative views to show that regarding agreement as necessary for successful resolution is somewhat of a paradigm view about the purpose of argumentation.

5.4 Walton and Krabbe's Persuasion Dialogue

In *Commitment and Dialogue* (1995) Walton and Krabbe develop an approach to argumentative dialogues which aims at integrating Charles Hamblin's *formal dialectics* and Paul Lorenzen's *dialogue logic*. The phrase 'formal dialectics' was coined by Charles Hamblin in his *Fallacies* (1970). According to Hamblin, the study of dialectical systems refers to "the setting up of simple systems of precise but not necessarily realistic rules, and the plotting of the properties of dialogues that might be played out in accordance with them"

⁷⁸ For instance, the rule stating that "A failed defense of a standpoint must result in the party that put forward the standpoint retracting it and a conclusive defense of the standpoint must result in the other party retracting its doubt about the standpoint" may require some more subtle formulations; in particular a conclusive defense of a standpoint's reasonability need not mandate the retraction of doubt in the standpoint if the doubt can also be established to be simultaneously reasonable. However, as far as I can tell, much of the rest of the PD-model could remain intact as an account of argumentation.

(Hamblin 1970 p. 256). Formal dialectics can be “pursued *descriptively*, or *formally*.” In Hamblin’s view both the descriptive and the formal approaches are important. According to Hamblin, however, formal approaches must be developed with the purpose of shedding light on “actual describable [linguistic] phenomena” (Hamblin 1970 p. 256). Indeed Hamblin’s own formal dialectics brings out several important features of discourse. A key difference between Hamblin’s system of formal dialectics and Lorenzen’s dialogue logics is that the latter approach yields a concept of logical validity while the former does not (van Eemeren, Grootendorst, Snoek Henkemans, *et al* 1996 p. 247).

Walton and Krabbe (1996, ch. 3) specify several different types of argumentative dialogues that are characterized by (i) an initial situation in which participants express conflicting points of view, (ii) the goal of resolving the conflict by verbal means, and (iii) a set of appropriate strategies and moves that participants can make to advance their goal. Of particular note for our purposes is what a resolution to the initial conflict by verbal means amounts to. According to Walton and Krabbe “if the dialectical process is to be successful at least one of the parties involved in the conflict will have to change its point of view at some stage in the dialogue” (Walton and Krabbe 1996 p. 68).

Therefore, as in the PD-model, Walton and Krabbe’s approach to argumentative dialogues requires at least one of the agents to adjust their point of view in order for a resolution to the difference of opinion to occur. While the PD-model and Walton and Krabbe’s approach offer different accounts of argumentative discussions, they share the view that to successfully resolve an argumentation it is necessary for there to be some change of view so that the different parties come to an agreement before the end of the discussion. As

with the PD-model Walton and Krabbe's view does not leave space for the possibility that the two opposing parties in an argumentation could resolve their difference of opinion through a mutual recognition of the rationality of both of the differing views.

5.4.1 Godden on the Importance of Belief in Argumentation

In a recent paper, *The Importance of Belief in Argumentation*, David Godden critiques a range of views—including van Emmeren and Grootendorst's PD-model and Walton and Krabbe's account of persuasion dialogues—that spell out a resolution to a difference of opinion only in terms of adjustments of commitments made in the form of speech acts. On these views argumentations are successful when the participants have followed all the rules of the dialogue game and have modified their *commitments* in accordance with these rules. However, Godden argues that “differences of opinion are only effectively resolved if commitments undertaken in argumentation survive beyond its conclusion and go on to govern an arguer's actions in everyday life, e.g., by serving as premises in her practical reasoning. Yet this occurs,” Godden maintains, “only when an arguer's *beliefs* are changed, not merely her commitments” (italics added Godden 2010 p. 397). In other words, changes in an arguer's commitments are not sufficient for there to be an *effective* resolution to the difference in opinion that precipitated the argumentation. Rather changes in belief are also required.

It is clear from the quoted text that Godden regards a change in belief as a necessary condition for a successful resolution of a difference of opinion. This would rule out the possibility that both agents could rationally maintain a difference of opinion even after an

exhaustive examination of the reasons for their different positions was carried out. As I mentioned earlier I will provide detailed examples of how such resolutions may occur in later sections of this chapter.

5.5 Expanding the Standard View: Johnson on Manifest Rationality

Johnson regards “rational persuasion as the fundamental purpose of argumentation” (Johnson 2000 p. 159). If the ‘persuasion’ in “rational persuasion” is interpreted as changing the commitments or beliefs of another agent involved in the argumentation, then Johnson’s view can be understood as requiring that the agent’s involved in an argumentation reach an agreement in order for the argumentation to successfully achieve its fundamental purpose. Consider the following line of reasoning to support the point: If the purpose of argumentation is to rationally persuade, and ‘persuade’ entails reaching agreement as expressed through either belief or commitment, then without agreement the argumentation would not have successfully achieved its purpose and would not have resolved its precipitating disagreement. It is worth noting that a weaker interpretation of ‘persuade’ is possible here. If ‘persuade’ simply means producing the recognition (through their beliefs or commitments) that a view is reasonable, then it need not require agreement between the parties in an argumentation. Rather an argumentation could successfully resolve if the reasonability of both of the different standpoints becomes apparent.⁷⁹

⁷⁹ While it is not entirely clear, on the basis of the text there is some reason to think that Johnson means something broader by persuasion than agreement through change of belief or commitment. Johnson says that the idea behind the practice of argumentation is “not [to] produce consensus or reach closure no matter what but rather to achieve consensus in which the parties agree that the strength of the better reasoning, and that alone, has determined the outcome” (Johnson 200 pp. 159-160). Again it is possible to interpret Johnson’s claim here as requiring a change in belief or commitment for an effective resolution to an argumentation. But

In addition to rational persuasion Johnson thinks argumentation has other important, although perhaps not as fundamental, purposes. For instance, Johnson thinks that argumentation augments the level of rationality both in those participating in the argumentation and in the world overall.

As a result of engaging in the practice [of argumentation] the participants are more rational and the amount of rationality in the world has increased. The arguer and the critic have exercised reasoning powers. If the critic has found a problem in the argument, then the arguer, having seen and accepted this criticism, is now in a better, more rational, position with respect to the issue addressed in the argument. If the critic's objections have been found wanting, then the arguer will have to have exercised his reasoning powers to show this, and his position will, to that degree, be more rational, having warded off objections. This rationality increases with each succeeding episode. As a result of each instance of the practice of argumentation, then, the world becomes a slightly more rational place. (Johnson 2000 p. 162)

Note that this purpose of argumentation can very well be accomplished even if the argumentation does not produce an agreement over the contested proposition. Even if the participants in an argumentation only come to realize the reasonability of each other's viewpoints there is an augmentation of the rationality of the participants in the argumentation (as well as in the world overall). At the outset of an argumentation the different parties do not regard the opposing party's view as being supported by the best line of reasoning. However, through argumentation it may become clear that the different positions are both reasonable for the different parties. If this is the case, then both parties have come to appreciate the

if it is possible for "the best reasoning" to support the reasonability of both viewpoints in an argumentation, then Johnson's view seems amenable to there being a lasting form of disagreement even after the successful resolution of an argumentation.

reasonability of a position they previously thought unreasonable. If so, it seems that they are in a more rational position *vis-à-vis* the issue under contention. They have become more aware of the “space of reasons” in relation to that issue. And, therefore, in so far as the participants in the argumentation have become more rational the world itself has also become a more rational place than it was prior to the argumentation taking place.

5.6 Logically Based Disagreements in Argumentation

In this section I clarify how logically-based reasonable disagreements might arise in realistic argumentations. I also consider how such disagreements ought to be dealt with when they do arise in an argumentation.

5.6.1 Logically Based Reasonable Disagreements as Argumentation Catalysts

As discussed in the previous chapter a disagreement is understood—in contemporary discussions on the epistemology of disagreement at least—as occurring when two agents hold incompatible doxastic attitudes toward the same proposition. Thus, the expression of a disagreement can precipitate an argumentation between the disagreeing agents. In other words, a difference of opinion as it is characterized in argumentation studies arises in discursive interactions when one agent sincerely asserts a proposition and another agent expresses doubts about the truth of that proposition. Such a difference of opinion may or may not lead to an argumentation. When disagreeing agents are willing and able to examine each other’s reasons for their differing opinions, then these agents would be led into an argumentation. When the disagreeing agents are unwilling or unable to further examine the reasons for their differing views, then such disagreements will not lead to any subsequent

argumentation. One way, then, that a logically-based reasonable disagreement may figure into an argumentation is through motivating the difference of opinion that results in an argumentation in the first place.

Consider again the ART SHOPPING example discussed in Chapter Two and Chapter Four. In ART SHOPPING it is not clear that there was any disagreement until Ana made the controversial inference (earlier called INF. 1) from the claim that “it’s clearly not the case that the painting isn’t good art” to the claim that “the painting is good art.” While Ana made this inference and asserted its conclusion, Jen was doubtful about the truth of the conclusion and was unwilling to make the inference. At this point in the conversation—if they had the capacity and desire to do so—Ana and Jen could begin an argumentation in which they more closely examine the reasons for their differing beliefs about whether the goodness of the painting they are discussing.

How might such an argumentation between Ana and Jen proceed? Presumably it could proceed in a variety of different ways. One plausible way that is worth looking into here would be if Ana and Jen more closely examined what each of them was getting at when they characterize the painting as being good art. It is possible that through their discussion on this topic Ana and Jen may become aware that while they both are accurately applying the concept of good art as laid out in Chapter Two, it is also the case that different audiences factor into their respective evaluations of whether the art is good. Indeed, it may become clear to Ana that what would matter for Jen’s audience is something more than merely visually striking features and Jen may become aware that anything more than visually striking features is not of any significance to Ana’s audience. This could take place through a

series of questions and answers whereby Ana and Jen get to the crux of their difference; that is that for Ana's audience good art is a purely visually identifiable where for Jen's audience conceptual originality is also important. Now it may be, as discussed in Chapter Four, that Ana and Jen are unaware of the differences in context. That is the context may be operating purely implicitly and they may be unaware of the implicit role context plays in their respective reasoning. However, it may also be the case that upon careful examination of the different positions in an argumentation they are able to uncover that they are operating in divergent contexts. At such an impasse in an argumentation a few options would be open to the parties involved. Some party A that encounters such an impasse in an argumentation with a party B may,

1. Present an argument for the proposition that the context in which A is operating is the appropriate context for both A and B to be operating in.⁸⁰
2. Present an argument for the proposition that different reasoning is appropriate in B's context than B used.

Or if (1) and (2) are not appropriate then,

3. Recognize that B reasoning is correct in B's context.

⁸⁰ In the good art case this strategy may proceed by Ana insisting that Jen's context is not important or is pretentious. All that really matters for good art are clearly identifiable qualities that any normal human can identify. Jen may say that there is much more to art than that and that really Ana should adopt the standpoint of art experts who are educated and experienced with art. However, in other context it may be much more straightforward that one is operating in a mistaken context. For instance, if the engineer took her standards of probability home and would apply them to assess the reliability of her partner bringing home milk after work, she is likely mistaken about the appropriate contextual standards. One way in which headway in such an argumentation would be to make the case the professional standards of probability the engineer is applying are out of place in the context at hand.

In the first two options the argumentation can resolve successfully in a more or less normal fashion. In case one, once one agent has adequately demonstrated that the other agent has misunderstood or misidentified their context, then the argumentation can proceed in a fairly regular fashion in which the agent who misidentified their contexts adjusts their commitments and beliefs in order to suit the appropriate context. In the second case if there is some error demonstrated in the other agent's reasoning, then that is reason for the other agent to revisit their views on the subject and either abandon their view or figure out a different line of reasoning that gets them to the same point via better reasoning. In either case the argument can progress along predictable and normal paths to a resolution in which one of the agents adjusts their commitments.

Case (3) is the one that is of particular interest for our discussion. In (3) the agent acknowledges that the other agent has reasonable grounds for their divergent viewpoint. However, they do this without abandoning their own viewpoint. This may appear to be a scenario in which the argumentation has not been successfully resolved. After all there is still a difference of opinion in the sense that the agents are adopting differing viewpoints on the contested proposition and over the set of logically valid inferences. Indeed there remains a disagreement between the agents since they adopt different doxastic attitudes towards the contested propositions and the contested inferences.⁸¹

The notion that opting for (3) results in the argumentation having no effective resolution seems to be supported by the views of the above argumentation theorists we considered. For in each of the views discussed earlier, although perhaps less obviously so in

⁸¹ They have also, it is worth noting, not changed their *commitments*.

Johnson's case, the claim was made that some change in commitment or in belief was necessary for a successful resolution to an argumentation. However, that it is possible for an argumentation to proceed to the point of (3) without going any further does indicate that (3) seems to be a legitimate end point for argumentation. In (3) there is no change in belief, but a recognition that that the other agent has rational grounds for their different viewpoint.

In ART SHOPPING, for example, even if Ana and Jen became completely aware of their different implicit contexts, neither should change their doxastic attitudes or discursive commitments *vis-à-vis* the goodness of the art they are evaluating. In this case even if there were a prolonged argumentation they are both still correct to believe and speak as they do. Jen may try option (1) above and make a claim that her context is really the one that we ought to be operating in, but it is acceptable for Ana to respond with a claim like "the conceptual innovativeness that you (Jen) are invoking is not something that should matter to an evaluation of good art and is not something that members of my audience ought to be impressed by." However, the fact that Ana's audience should not be all that impressed by the originality of a painting, should not to impact Jen's evaluation of whether or not the painting is good art. In her case she can respond by further stressing the importance that art be original and non-derivative. And, of course, Jen is right about her context, but she can come to appreciate that these factors simply don't and really shouldn't matter to Ana. Ana can, in turn, come to appreciate that there are factors in the evaluation of art that do not matter to her but may be of legitimate importance to more sophisticated art connoisseurs. After all, those people who have seen and are aware of the most original and innovative art in history, Ana might reason, would not be impressed by art that reinvents the wheel and does not adopt

some unique technique or original message. Note, again, that the difference here is not a product of ambiguity. Both Ana and Jen are using the same concept. The meaning of “good art” is not ambiguous like the meaning of, for instance, ‘bank.’ Rather the concept quantifies over audiences.

Moreover, the type of scenario laid out in the preceding paragraph does not strike me as an unsuccessful resolution to the difference of opinion that produced the argumentation between Ana and Jen. Rather both Ana and Jen have become aware of the legitimacy and rationality of a viewpoint they previously did not consider rational. While this may constitute a changing of mind of sorts, they still hold the same beliefs and commitments they did at the beginning of the argumentation. Ana still thinks the art is good and Jen is still doubtful of the art’s goodness. However, they acknowledge that each other’s views on the subject are rational which they previously did not.

5.7 Shifting

One way to understand how the argumentation between Ana and Jen can be successfully resolved in spite of Ana and Jen maintaining their disagreement is that their argumentation opened up the possibility of a certain pattern of contextual reasoning called *shifting*. Shifting “changes the value of a contextual parameter without changing the collection of parameters.” (Benerecetti, Bouquet, Ghidini 2008) Prior to engaging in argumentation, shifting is blocked for Ana and Jen. That is to say they are not able to infer in accordance with shifting because of the nature of their beliefs about the concept GOOD ART. I

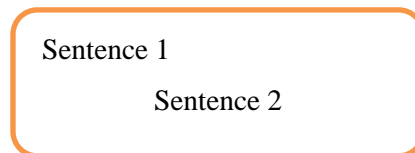
explain why Ana and Jen are blocked from shifting in more detail shortly, but first it will be helpful to discuss a bit more about what shifting involves.

A useful convention for representing contextual reasoning using the so-called “metaphor of the box” has been developed by Giuchiglia and Bouquet (1997),

A context dependent representation has three basic elements: a collection of parameters P_1, \dots, P_N, \dots , a value V_i for each parameter P_i , and a collection of linguistic expressions that provide an explicit representation of a state of affairs or domain. The intuition is that the content of what is said inside the box depends . . . upon the values of the parameters associated with the box. (Benerecetti, Bouquet, Ghidini 2008)

So a context dependent representation can be represented in box form in the following fashion,

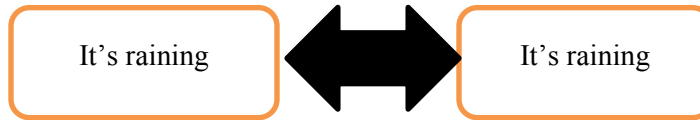
$$P_1=V_1 \dots P_N=V_N$$



For present purposes I adopt box-form purely as an explanatory device used to explain context shifting inferences. According to Benerecetti, Bouquet, and Ghidini shifting occurs when the value of a parameter changes but the parameter itself remains the same. The idea is that by changing one of the values of the parameters you can change what is represented in the box. So considering the sentence “it’s raining” shifting results in the following changes to that representation depending on what the location parameter is set to,

*P1=V1...Pn=Vn, T=Feb 3rd,
L=Toronto, ON*

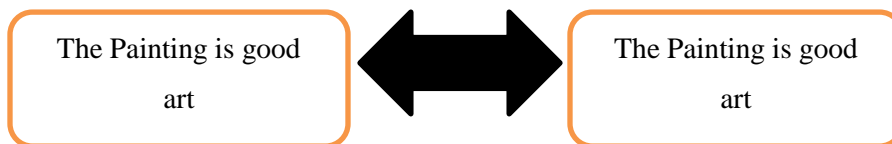
*V1...Pn=Vn, T=Feb 3rd,
L=in Vancouver, BC*



Suppose the time parameter is set to February 3rd. In all likelihood, given the large amounts of rain in Vancouver at that time of year, the sentence in the right box is true. However, given that it is usually well below zero at that time of year in Toronto, the sentence in the left box is probably false. Location is one familiar contextual parameter. Indexicals such as ‘here’ or ‘there’ require a contextual parameter to be supplied in order to get a full proposition. Other familiar contextual parameters are *time*, as in the case of indexical terms such as “now,” “soon,” “yesterday,” and *individuals* as in the case of first person pronouns such as “I” or “me.” However, if what I was saying in Chapter Three is on track there are a profusion of terms for which a contextual parameter needs to be supplied in order to evaluate the truth of a proposition the term is being used to express. In ART SITUATION shifting would involve changing the value assigned to an audience parameter. So using box-form we would get something like what follows,

P1...Pn, A=normal audience

P1...Pn, A=Art aficionados



Note that the arrows between the boxes are not meant to function in the same way that biconditional functions. Rather they are meant to show that one can move into one box from the other by changing a value of one of the parameters.

The lesson that can be garnered from a reflection on context shifting inferences is that through argumentation Ana and Jen may become aware that their differing relevant audiences function something like a contextual parameter that can have an impact on the truth of their respective claims about what is good art. They may, therefore, become aware that the contextual inference pattern of shifting is open to them.

Indeed argumentation can be the sort of discursive interaction that opens up the possibility of shifting for Ana and Jen. Why, one may wonder, might Ana and Jen not employ shifting as soon as they recognize their disagreement? In disagreements like Ana and Jen's, or like other disagreements on normative issues such as disagreements over moral acceptability discussed in Chapter Three, the background experiences and beliefs will be deeply embedded and implicit in the agent's worldviews in such a fashion that shifting is blocked. Ana and Jen's views about good art have been shaped by numerous experiences with different works of art and have been influenced in various ways by different audiences and role models. Their views may be deeply embedded in such a fashion that they have come to think that their approach to evaluating art is *the* correct approach. Thus, Ana and Jen are not likely to be consciously aware that shifts such as the one modeled above are possible until a more complete examination of their implicit views on the issue has taken place.

By making shifting from one context to another an available inference pattern argumentation allows agents that are not aware of contextual influences on their views to

become aware of those influences, and to become aware of how different contexts might support different views. Once shifting is an available option agents can employ shifting to understand the reasonability of divergent perspectives without changing their personal doxastic attitudes toward a contested viewpoint or even without changing their commitments aside, perhaps, any commitments they had to the lack of reasonability of alternative perspectives. In a very real way, then, argumentations in which there ends up being no agreement result in what, by all standards, can be considered a successful resolution. This is accomplished by facilitating the possibility of contextual reasoning patterns that are blocked prior to participating in an argumentation.

5.8 A Counterexample to the Standard Account of the Purpose of Argumentation

The successful resolution of differences of opinion like the one between Ana and Jen offers a counter example to the standard view discussed earlier that a change of mind or of commitment is necessary to successfully resolve an argumentation. This view largely arises from the notion that the very purpose of argumentation is to produce a rational change in view. However, if we drop this understanding of the core purpose of argumentation and instead adopt a broader view that argumentation's purpose is to enhance the rationality of the participants involved, we can accommodate such counterexamples. Recall that Johnson identified the fundamental purpose of argumentation to be rational persuasion and assigned an overall increase in rationality to be a kind of secondary purpose of argumentation. I propose reversing this order. While rational persuasion may remain a purpose of

argumentation, the more central purpose of argumentation seems to be the augmentation of rationality. Rather than changing minds or commitments argumentation has the purpose of exploring the reasons for different positions with the possibility that multiple viewpoints might be equally well supported.

Note that encounters in which option (3) is the best course of action are likely to happen when issues of taste or other normative topics are being debated. In other circumstances if reasonable disagreements precipitate an argumentation it will be typical that strategy (1) or (2) outlined above will help move the argumentation to a more traditional resolution. Consider the example of the concept PROBABLY and its logically significant contextual saturations mentioned in Chapter Three. The different contexts here were a family making casual assessments about the likelihood they would be able to have fresh milk at dinner in comparison to an engineer using very careful and precise measurements in making assessments about the likely structural integrity of a bridge. It is difficult to imagine scenarios in which there would be a disagreement that arises between these two different contexts that could not be settled through an argumentation that one context is really the appropriate context for the particular situation. Nevertheless, disputes over taste and other normative issues such as moral acceptability are grist for mill of argumentation and frequent topics of debate. Thus, any view of argument ought to make room for the possibility that, upon, examination it will become apparent that different views are equally reasonable.

5.9 Scope of Counterexample

A reasonable question to ask at this point is, “what is the scope of the conclusion that can be drawn from a consideration of the counterexample of argumentations that revolve around logically based reasonable disagreements?” Someone may argue that the primary goal of argumentations that revolve around logically based reasonable disagreements may be to better understand the rational positions that can be taken on a controversial issue. However, there are many disagreements in which agents would be acting irrationally if they did not change their beliefs or doxastic attitudes. In these cases, someone may contend, the goal should be persuasion and getting the other person to change their mind. My view is that it is possible to regard the primary goal of *all* argumentations as an exploration of the “space of reasons.” In cases where agent’s do not change their mind in the face of an overwhelmingly compelling argumentation about an issue in, say, physical science, these agents are acting irrationally and are not in conformity with norms of reason. In such cases the primary goal of argumentation is still to augment rationality. Certainly this goal may be frustrated if a partner in argumentation is not revising beliefs in the face of compelling evidence. But the goal is not frustrated because there is no change of mind. Rather the goal, in this circumstance, is frustrated because there is no augmentation of rationality, no better understanding of the “space of reasons” surrounding the issue. If one’s argumentation partner is acting so irrationally there is a good chance that neither one’s own nor the partner’s rationality is being enhanced. Note, however, that even this is a contingent matter. Even in cases with overwhelming evidence one’s partner could plausibly not change their beliefs or explicit commitments on an issue but still be a helpful argumentation partner.

Consider the following example. Suppose one biologist who is an atheist is in an argumentation with a committed creationist who also happens to be an expert biologist. It is not hard to imagine that the creationist biologist could not revise their beliefs or commitments about evolution but be able to be a fruitful argumentation partner about all sorts of points in evolutionary biology. The creationists may simply be able to divorce their beliefs and explicit commitments on evolution from the technical discussion about points of issue in evolutionary theory. There may be a violation of the norms of reason on behalf of the creationist, but this is not incompatible with a successful resolution to the argumentation in terms of an enhanced understanding of the rational space surrounding the contested issues.

5.10 Argument-as-War-Metaphor and the Adversarial Paradigm

In this section I explain how reconceptualising the purpose of argumentation as a collaborative exploration of the “space of reasons” for the purpose of augmenting and better understanding the rational perspectives available to take on an issue can serve to weaken what Janice Moulton has called the *adversarial paradigm* active in contemporary philosophical practice. One concrete way that such a reconceptualization of the purpose of argumentation could serve to dislodge the adversarial paradigm is that it could weaken the grip of the *argument-as-war* metaphor so central to the way we think about and describe arguments and argumentations. Trudy Govier (1999) has contended that a minimal amount of cordial adversariality is unproblematic. However, even a minimal adversariality is prone, in her view, to becoming a more confrontational version of adversariality largely because of how deeply embedded the argument-as-war metaphor is in our unconscious

conceptualization of argumentation. I claim that approaching the purpose of argumentation as a collective endeavor of exploring the rational perspective that can be reasonably adopted toward an issue can weaken the argument-as-war metaphor and, thus, make slips to ancillary adversariality less frequent.

I begin this section with a discussion of the argument-as-war metaphor explaining what it is and illustrating the grip that it holds on the way we think about arguments and argumentation. I continue by discussing Moulton's case that philosophy is caught in the grip of an adversarial paradigm that inappropriately narrows its scope of investigation and introduces biases that prejudice philosophers in their quest for better understanding of fundamental problems. I also discuss Govier's view that the argument-as-war metaphor encourages slips from harmless versions of adversariality to more aggressive and harmful (both epistemically and practically harmful) versions of adversariality. I then explain exactly how reconceptualising argumentation as proposed weakens the grips of the argument-as-war metaphor and, in turn, serves to dislodge any adversarial paradigm present in philosophy.

Govier is not the first to suggest that the *argument-as-war* metaphor is deeply embedded in our concept ARGUMENT. According to Mark Johnson and George Lakoff (1980 p. 4), this metaphor is reflected in expressions such as,

Your claims are *indefensible*
He *attacked every weak point* in my argument
His criticisms were *right on target*
I *demolished* his argument
You disagree? Okay, *shoot!*
If you use that strategy, he'll *wipe you out*
He *shot down* all of my arguments
My *opponents* arguments are *forceful*

Well, I definitely *lost* that argument⁸²

Johnson and Lakoff explain that,

It is important to see that we don't just *talk* about arguments in terms of war. We can actually win or lose arguments. We can see the person we are arguing with as an opponent. We attack his positions and we defend our own. We can gain and lose ground. We plan and use strategies. If we find a position indefensible, we can abandon it and take a new line of attack. Many of the things we do in arguing are partially structured by the concept of war. Though there is no physical battle, and the structure of an argument—attack, defense, counterattack, etc.—reflects this. It is in this sense that ARGUMENT IS WAR metaphor is one that we live by in this culture; it structures the actions we perform in arguing. (Johnson and Lakoff 1980 p. 4)

This strikes me a pretty compelling case for thinking that the concept of war structures our concept of argumentation: we not only use militaristic terms to describe argumentation, but the sorts of things we do in an argumentations are given militaristic and confrontational descriptions.

Some feminist philosophers have developed criticisms against what Moulton calls the “adversarial paradigm” in philosophy. This paradigm can be understood as a view, widespread in philosophical practice today, that the *only* right way to do philosophy is by using *the adversary method*. Moulton describes the adversary method as, the method of exposing work in philosophy to “the strongest and most extreme opposition.” (Moulton 2003 p. 153) According to Moulton,

⁸² All of these examples come from Johnson and Lakoff (1980 p. 4) aside the last example which is my own.

the justification for this method is that a position ought to be defended from, and subjected to, the criticism of the strongest opposition; that this method is the only way to get the best of both sides; that a thesis which survives this method is of evaluation is more likely to be correct than one that has not; and that a thesis that has been subjected to the Adversary Method will have passed an objective test, the most extreme test possible, whereas any weaker criticism or evaluation will, by comparison, give an advantage to the claim to be evaluated and therefore not be as objective as it could be. (Moulton 2003, p. 153)

What is wrong with the adversary method? In order to illustrate the problem consider a distinction that Trudy Govier (1999) and Phyllis Rooney (2010) have pointed between *ancillary adversariality* and *minimal adversariality*. Ancillary adversariality, on the one hand, involves “name calling, rudeness, intolerance, and quarrelsomeness that can infuse argument situations” (Rooney 2010). Minimal adversariality, on the other hand, is a basic level of adversariality that involves respectful differences and disagreements without aggressiveness. Govier (1999) contends that minimal adversariality is not problematic and almost unavoidable. However, she notes that slips to more aggressive modes of adversariality are almost inevitable given the deeply embedded nature of the *argument-as-war* metaphor. If our interlocutor in an argumentation is conceived as an opponent it is more likely that we will slip into a more adversarial interaction with them than if we were to see the interlocutor as a partner with whom we are comparing our differing views on an issue. So, one problem with the adversarial method is that it leads to aggressiveness in philosophical disputes that can be less conducive to sober thinking on philosophical problems.

Another problem with the Adversary Method is that it is commonly regarded as the only right way to do philosophy and, according to Moulton at least, has reached the status of

being a paradigm for philosophical practice. The adversary method on its own may not be problematic aside from its aggressive character and the effect it has on sober discussion about a controversial topic. In certain circumstances Moulton even acknowledges the usefulness of an adversarial approach. However, when the adversariality method is viewed as the only, or the most effective, way to do philosophy more substantial problems arise since it can marginalize other helpful and insightful approaches to philosophy; approaches that focus, for instance, more on description as opposed to argumentation, or on experimentation, or comparative and historical approaches, etc.

If Moulton is right that the Adversarial Method has become a sort of philosophical paradigm, then one way to dislodge the paradigm would be to reconceptualise the practice of argumentation; a practice central to philosophical practice and often intertwined, whether rightly or wrongly, with the Adversary Method. If argumentation can be reconceptualised in a fashion that breaks down the argument-as-war metaphor, yet still maintains its beneficial evaluative and critical contribution to the examination of philosophical views, then perhaps collegial and co-operative explorations of differences of opinion will be less prone to slip into more aggressive modes of disputation. After all, the argumentative discussion is not one with an opponent whom one is trying to rationally persuade, but with a colleague or partner with whom one is sharing ideas in the hope of augmenting one's understanding of the rational space surrounding a controversial issue. This reconceptualization of argumentation as aimed at understanding different positions could serve to neutralize some of the unnecessary adversariality that is characteristic of argumentation generally and serve to dislodge any adversarial paradigm in philosophy in particular.

It is worth noting that disagreements and argumentation need not be characterized in terms of confrontation. We can recast the sentences in the *argument-as-war* metaphor above to more accurately describe the corresponding activities in an argumentation without the militaristic terminology. For example,

There is not sufficient reason to regard those claims as acceptable.
He raised criticisms against every claim in my argument for which I did not give adequate reasons.
His criticisms clearly illustrated the arguments problems.
I gave definitive reasons that that argument is problematic.
You disagree! Why?⁸³

I do not need to go over all the sentences from Johnson and Lakoff to make the point. It is clear that the militaristic metaphor, while deep, is not necessary. What is also interesting to note, though, is that the restatements of the militaristic sentences end up being more precise and accurate. They focus on the actual phenomena, the presentation of reasons for a position and the various commitments and moves that are involved in and can be made during the give and take of reasons. Instead of telling someone to “shoot” when they disagree, we ask why they disagree with us, what are the reasons for disagreeing, which is a more exact translation of what we are getting at when we tell someone to “shoot.” Therefore, not only does moving away from the militaristic metaphor weaken the Adversariality Paradigm, it

⁸³ As it stands these replacements for the argument-as-war metaphor may strike some as boring and pedantic. While I am not sure how important it is that the language in which we describe argumentation be exciting—I will propose different less confrontational metaphors which we could employ to describe moves in an argumentation, and the virtues and vices of an argumentation that can salvage some of the snappiness that some may find in the argument-as-war metaphor.

also results in a more clarity in our descriptions of arguments and argumentations and in our characterizations of the different things that we do with arguments and argumentations.

It is not so much that the concept of argumentation ought not to be framed in any sort of metaphorical language. However, the militaristic metaphor is particularly unhelpful and can be avoided. It is possible to think of argumentations as structures that can be built or as a craft. Using the framework of construction is already, in many senses, a metaphor that structures argumentation. We talk of “making arguments,” of premises not be “well-founded,” or “well-supported.” We can even talk about arguments being “weak” and “strong” without this being hashed out in a militaristic fashion. We can think of these terms as referring to the “structural support” of premises—be which we would mean the reasons given to support the premises. We can even use notions such as structural integrity to talk about the “strength” of the illative relation between premises and conclusion. And, we can extend the craft and construction metaphors in ways that allow us to describe different argumentative moves. For instance, we often talk about “weaving” different “threads” in an argumentation together. This expression is often used to describe a move toward the end of the argumentation (or at least some way into the argumentation) when we take conclusions established by a variety of sub-arguments and use them as premises in an argument for an important thesis in the overall argumentation. Also we can describe a decisive critique of an argumentation partners’ reasoning (or perhaps one’s own reasoning) as “disassembling their argument.” The point is that we can use metaphorical language to talk about arguments and argumentations in snappy and interesting ways without falling into an adversarial framing of the activity of argumentation.

5.11 Conclusion

I began with a discussion of several different influential accounts of the purpose of argumentation. Each of these views, we saw, understood the purpose of argumentation to be the achievement of a rational agreement between the parties involved. The idea is to resolve a difference of opinion by coming to the most rationally defensible position which both agents are supposed to endorse at the end of the argumentation. The problem with this view is that it does not leave room for the possibility of successful argumentations which do not, and in some cases cannot, end with agreement. We saw how some argumentations can be precipitated by logically-based reasonable disagreements. These argumentations can terminate, it was discussed, in a newfound understanding of the rational acceptability of positions that were previously thought unreasonable. The participants in such argumentation can have increased tolerance for certain divergent positions and can better understand the “space of reasons” surrounding the disputed issue. Therefore, I proposed to understand the purpose of argumentation as augmenting rationality. Such a conception of the purpose of argumentation is not only able to capture the argumentations in which a rational consensus arises, but also ones in which no consensus arises—like those that are precipitated by logically-based reasonable disagreements. Finally I examined how this understanding of the purpose of argumentation supplements feminist accounts of the adversariality paradigm. I argued that co-operative conception of the purpose of argumentation can serve to dislodge the “Adversary Paradigm” since it understands argumentation to not be a fundamentally adversarial endeavour. Argumentation does not take place with an opponent, but a partner. It

is not a game to be won or lost. Rather it is a collective endeavor to try to understand the rational space that surrounds a contested topic.

Chapter 6

Conclusion

Having discussed some of the implications of logical contextualism for the epistemology of disagreement and for argumentation theory we can now tie up some dialectical loose ends from Chapter One. In Chapter One we discussed several different accounts of how two or more logics can be correct. Our discussion led us to identify various strengths and weaknesses in current efforts to make sense of pluralism about logic. We used these strengths and weaknesses to extract a list of desiderata that a version of logical pluralism sufficiently interesting for sustained philosophical reflection and scrutiny ought to possess. I want to use the bulk of my conclusion to explain how logical contextualism satisfies the desiderata of a sufficiently interesting pluralism about logic. This discussion will also serve the purpose of highlighting some of the key points and conclusions drawn throughout the thesis.

To begin it will be helpful to have a list in one place of all the desiderata of a sufficiently interesting version of logical pluralism,

- (1) A sufficiently interesting pluralism should be able to explain how opposing views about the validity of controversial inferences can be reasonable.
- (2) A sufficiently interesting pluralism should have a plausible answer to the Priest-Read challenge.
- (3) A sufficiently interesting pluralism should explain how at least two conflicting logics are correct.
- (4) A sufficiently interesting pluralism should not be merely trivially true.

- (5) A sufficiently interesting pluralism should be able to explain the relationship between logical consequence and the norms governing belief formation.
- (6) In a sufficiently interesting pluralism it should be possible for reasoners to be using the same concepts in the same situation and to correctly adopt different attitudes toward the validity of the same inference.

This list of desiderata may not be comprehensive. It is based on critiques of various accounts of logical pluralism that can be found in the current literature. As the dialectic around logical pluralism evolves other strengths and weaknesses may very well emerge. However, I think the list does give a pretty good picture of what the current literature would suggest are the characteristics that make a version of logical pluralism interesting as a philosophical thesis.

Does logical contextualism satisfy the desiderata? Ultimately the desiderata will have to be balanced against each other and it may not be possible for an account of logical pluralism to clearly satisfy all the desiderata simultaneously. However, I think logical contextualism comes pretty close.

Logical contextualism has a pretty clear answer to the first desideratum. Opposing views about the validity of an inference can be reasonable because an inference can be rendered logically valid in one context that is not rendered logically valid in another. We considered several examples of this in Chapters Two and Three. My primary example was ART SHOPPING in which double-negation elimination is rendered valid by features of Ana's context, but is not by Jen's. We also looked at modifications of this example that made *ex falso quodlibet* valid in some contexts but not valid in others. Different views about the validity of this inference would be correct in Ana and Jen's context respectively. We also

looked at several other examples. We looked at examples involving the concept of moral acceptability construed as a judgment-dependent concept. We looked at examples of the concept PROBABLY, the concept FUNCTION, and the concept THE-THING-TO-DO. For each of these concepts some inferences were correct in some contexts that were not correct in others.

We extensively discussed how logical contextualism can plausibly address the Priest-Read challenge in Chapter Two. We saw that in different contexts correct application of the truth-predicate is constrained differently. These different constraints can result in a conclusion logically following in one context but not in another even if the premises are true in both contexts. So in the context in which the proposition is a logical consequence there will be a different truth-predicate governed by different constraints than in the context in which the proposition is not a logical consequence. Thus, a proposition p that follows from true premises in some logic α , but not in another logic β can be α -true without being β -true. And, therefore, we have addressed the problem of how to settle the truth-value of a proposition that follows from true premises in one correct logic but not another.

The third desideratum is that any account of logical pluralism should be able to explain how two or more *conflicting* logics are correct. Logical contextualism, as discussed, allows for the following scenario: the conclusion of a double-negation elimination could be false in one context and true in another. DeVidi-pluralism illustrated that constructive models can provide genuine counter examples to classical inferences. There exist, for example, constructive models in which the formula $\neg\forall x(Ax \vee \neg Ax)$ is true. However, the formula is false in all classical models. In a sense logical contextualism can be seen as offering one way of putting this observation into practice. In the different contexts different models capture

correct logical reasoning. So there are contexts in which, assuming a true premise, it is possible for the conclusion of double negation-elimination to be false and other contexts where it is impossible for a conclusion of such an inference to be false. Disagreeing models capture the correct logical behaviour in different contexts. Moreover, contexts in which different sets of inferences are correct can overlap in such a fashion that they share a situation. We saw how this takes place through consideration of several examples in Chapter Two and Chapter Three; in particular the ART SHOPPING example, but also the examples involving the concept MORAL ACCEPTABILITY, PROBABLY and FUNCTION. So not only will conflicting models correctly capture the logical behaviour in different contexts, the context could share situations so that conflicting models can capture the logical behaviour relevant to the same situation. This strikes me as relatively strong and robust sense in which logics can conflict if logical contextualism is true.

The fourth desideratum has been addressed throughout the thesis. Logical contextualism is a controversial thesis in philosophy. It is clearly not a view that is widely accepted in current philosophical views about logic. The only place that I have seen it referred to in the literature is one fairly cryptic paragraph in Shapiro (2011). There are various ways that the contextualist's thesis about logic could be challenged. For instance, if one demonstrated that an inference's validity could not coherently vary with context. Therefore, logical contextualism should not be regarded as a trivial true view that is already widely accepted.

The answer to the fifth desideratum was provided in Chapter Four. In that chapter we saw that (EN-LC) functioned as norm that connected belief forming processes with logical consequence. To review (EN-LC) stated,

(EN-LC) If p is a *logical consequence* of s , then one should hold a degree of belief in p no less than the degree of belief one holds in s .

(EN-LC) can be fleshed out in several different ways. As established in earlier chapters in the thesis, logical consequence varies from context to context. If p is a logical consequence in context C_1 and an agent R in C_1 believed s to degree 0.7, then by (EN-LC) one would either have to believe p to a degree equal to or greater than (say if there is additional evidence for p above its following from s) 0.7 or reduce one's degree of belief in s . However, no such obligation exists if in a context C_2 in which p is not a logical consequence of s . So the consequence relation that is rendered correct by features of a context will determine exactly how *logical consequence* is made precise in (EN-LC) and what one's epistemic obligations are for revising their beliefs based on identifying logical consequences of their beliefs. For a concrete example, in a context in which *ex falso quodlibet* is valid, (EN-LC) will oblige an agent to reduce their degree of belief in the conjunction of contradictory premises. However, in a context in which such a principle is not valid, no such obligation will exist.

In Chapter Four we also saw how (EN-LC) can produce logically-based reasonable disagreements. These disagreements arise when at least two agents are operating in at least two different contexts that make different inferences valid. Logically-based reasonable disagreements are a new sort of peer disagreement that has not yet been considered in the literature on reasonable disagreement among peers.

In Chapter Five I further explored how agents can work out logically-based reasonable disagreements in argumentation. We saw that the existence of logically based reasonable disagreements suggests a revision of how we ought to understand the aim and purpose of argumentation. Traditional theories of argumentation have understood the purpose of argumentation to be to achieve some form of rational consensus. The existence of logically-based reasonable disagreement, however, implies that in several argumentations this is not possible. I proposed replacing the traditional account of the purpose of argumentation with an account in which argumentation is understood as a give-and-take of reasons, the purpose of which is not to achieve rational agreement but to better understand the space of reasons available on an issue. Very often an argument will result in a rational consensus. One of the participants will change their mind or their commitments because it has been made sufficiently clear that a position different than the one they previously held is more rational. However, simply because there was no consensus achieved it does not follow that an argumentation was not successful. No consensus may be possible since the argumentation may essentially turn on a logically-based reasonable disagreement. Such an argument could, nevertheless, still be fruitful if the discussion resulted in a better understanding of the issue.

Finally, it should also be clear by now that logical contextualism satisfies the sixth desideratum. We provided several examples of successful communicative interactions in which it is possible for two or more reasoners who are in the same situation and reasoning about the same concept to have different correct attitudes toward the validity of the same inference. Such a scenario can occur when the different reasoners are in different contexts. If

features of one context renders an inference logically valid that is not rendered valid in the other context, then different reasoners in the different contexts are entitled to adopt different attitudes to the validity of the inference. This does not mean that the reasoners are talking past each other, or that there is a deep ambiguity about the concepts as they are applied in different contexts. As we saw, the literal meaning of propositions involving the concepts is the same in different contexts. Rather it is the role the context plays in filling out the concept that gives it unique logical roles in different contexts.

Therefore, logical contextualism satisfies the desiderata of a sufficiently interesting version of logical pluralism. In addition to satisfying the desiderata it has novel implications for several issues in current philosophy including reasonable disagreement among epistemic peers and the aim and purpose of argumentation theory. I, therefore, conclude that logical contextualism is a uniquely interesting pluralism about logic that is worth sustained philosophical reflection and enquiry.

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