Logical Pluralism, Deductive Justification, and Transmission

Abstract

Logical pluralism is the view that there are different and equally good logics. Logic affects justification in the following way: when one is justified in believing the conclusion of an inference *in virtue of* being justified in believing the premises, it is said that justification transmits from the premises to the conclusion. In making inferences, one employs a certain logic. Therefore, the transmission of justification depends, among other things, on the logic one employs in in making competent deductions. The logical pluralist endorses many logics; this would presumably change the way in which logic impacts on the transmission of justification. Moretti and Piazza (2013a; 2013b) spell out necessary and sufficient conditions for transmission in the form of a principle. I modify their transmission principle in order to make it suitable to the framework of logical pluralism. In particular, I consider a version of logical pluralism formulated by Beall and Restall (2000; 2001; 2006). Then, I test the principle by employing it on a case that I consider problematic for the transmission of justification in Beall and Restall's account.

Beall and Restall's version of logical pluralism amounts to the following: since there are different and equally good accounts of logical consequence, there are different and equally good logics. Beall and Restall individuate three core features of logical consequence: Necessity, Normativity, and Formality (2006: 14-24). Further, they define logical consequence via the Generalized Tarski Thesis (2006: 29):

> GTT: An argument is valid$_x$ iff, in every case$_x$ in which the premises are true, so is the conclusion.

Each precisification of GTT which exhibits the three core features is an admissible account of logical consequence. According to Beall and Restall, there are at least three admissible logics: classical; relevant; and intuitionistic. Beall and Restall (2006: 97) add that justification can transmit across an inference only when «one is entitled to accept that such and so is a consequence, and when one is entitled to *strongly endorse* that consequence. But those conditions do not single out a particular *logic*». They provide the following definition of strong endorsement (2006: 82-3):

> An instance of GTT satisfies the *actuality constraint* iff the actual case is in the domain of its quantifier.

One *strongly endorses* a consequence relation if one takes it to be an admissible instance of GTT and accepts that it satisfies the actuality constraint.

Consider the following transmission principle (TP) by Moretti and Piazza (2013b):

(TP): a subject *s*'s justification for believing *p* based on evidence *e* transmits to *p*'s logical consequence *q* iff:

(1) *s* has justification for believing p based on *e*;

(2) *s* knows that *q* is a logical consequence of *p*;

(3) *s* has justification for believing *q* in virtue of the satisfaction of (1) and (2).

In order to employ it in the framework of Beall and Restall, (TP) needs to be modified in two ways. First, since Beall and Restall admit for different kinds of logical consequence "logical consequence" has to vary over the range of admissible consequences. Secondly, one has to add the strong endorsement requirement.

(TP*) a subject *s*'s justification for believing *p* based on evidence *e* transmits to *p*'s (logical consequence)$_x$ *q* iff:

(1) *s* has justification for believing *p* based on *e*;

(2) *s* knows that *q* is a (logical consequence)$_x$ of *p*;

(3) *s* has justification for strongly endorsing (logical consequence)$_x$;

(4) *s* has justification for believing *q* in virtue of the satisfaction of (1), (2) and (3).

Note the strong endorsement requirement is constituted by the following two requirements: *s* has justification for believing that (i) (logical consequence)$_x$ ranges over admissible instances of GTT and (ii) it satisfies the actuality constraint.

If logical pluralism is true, then there is a further condition a subject must meet in order to have transmission of justification. Presumably, then, along with cases when transmission fails because conditions (1) and (2) are not met, and with standard transmission failure templates – e.g. information-dependence; indirectness; etc. – there will be cases in which the failure to transmit justification depends on condition (3). Here is an instance of such cases. Consider the following inferences:

Inference X:

  (1) $\sigma \rightarrow (\alpha \rightarrow \beta)$

  (2) σ

  (C1) $\alpha \rightarrow \beta$

Inference Y:

  (3) $\neg\neg\alpha$

  (C2) α

X and Y are best modelled respectively by intuitionistic and classical logic – e.g. X is an inference of constructive mathematics and Y is an inference of truth-conditional semantics. Consider now inference Z, which has (C1) and (C2) as its premises:

  (C1) $\alpha \rightarrow \beta$

  (C2) α

  (C3) β

Note that X, Y and Z are not part of a unique, long deduction; rather, they are inferences made independently from one another. Since Beall and Restall's pluralism allows one to employ different logics to model different applications, it seems that an endorser of Beall and Restall's pluralism may find herself in the situation sketched. Presumably, since Z's premises are the conclusions of X and Y, a subject would employ either classical or intuitionistic logic to evaluate Z. Note than, being Z an instance of modus ponens, it would turn out valid in both cases. Consider now the following question: is a subject who adopts Beall and Restall's framework justified in believing (C3) on the basis of inference Z? My focus is on *deductive* justification. Roughly, a subject *s* has deductive justification for believing *p* if *p* is the conclusion of a valid inference whose premises *s* has justification for believing.

In order to answer the question, I provide a multi-premise version of (TP*) and apply it to inference Z. The upshot is that Beall and Restall are committed to answer that the subject is justified in believing (C3), classically, but she is not, intuitionistically. That is due to a failure to meet condition (3). More specifically, the failure to meet condition (3) depends on whether the actuality constraint is satisfied. If Z is evaluated using classical logic, the actuality constraint is satisfied if *s* takes the actual case as complete and consistent. If Z is evaluated using intuitionistic logic, the actuality constraint is satisfied if *s* takes the actual case as potentially incomplete. However, evidence for (C1) and (C2) is constituted by inferences X and Y, which are made respectively with

intuitionistic and classical logic. So, the actuality constraint would affect the possibility of *availing oneself* with one's deductive justification for (C1) and (C2). This does not mean that one "looses" one's justification for (C1) and (C2). Rather, one can still claim one has deductive justification for (C1) and (C2), but one cannot continue reasoning on the basis of such justification, if the logic is changed. I conclude that (TP*) is a workable transmission principle for logical pluralism, for it accounts for those cases in which transmission failure depends distinctively on the fact that there is more than one logic at work.

References:

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