

Reflective Equilibrium and Disagreement about Logics

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Abstract. Most accounts of the method of reflective equilibrium fail to distinguish explicitly between judgements held prior to the process of mutual adjustments and judgements in agreement with the systematic principles, which result from the process. This distinction can be used to defend the claim that reasonable disagreement between proponents of rival logics is possible against arguments advanced by Resnik and Shapiro. While from the pre-systematic perspective the method of reflective equilibrium allows us to develop and justify rival logics, such a pluralist view is no longer available from the perspective of fully developed logical systems.

This paper investigates the claim that rival logics can simultaneously be justified by the method of reflective equilibrium (henceforth “RE”). Against Resnik’s extensive discussion of RE as the methodology for logic (Resnik 1985; 1996; 1997:ch. 8.3), Shapiro (2000) argues that the method of RE can only account for a pluralist position if we accept that there is a “core” of logical notions outside the scope of the method of RE and knowable a priori. After briefly discussing some aspects of the method of RE, I analyse the dispute between Shapiro and Resnik and suggest a defence of the claim that there can be reasonable disagreement between proponents of rival logics.

1. Reflective Equilibrium

At the core of the method of (so-called “wide”) RE are two ideas. Epistemic justification is a matter of whether judgements, systematic principles and background theories are in equilibrium, and this state is reached through a process of mutual adjustment of judgements, principles and in some cases also background theories. Various accounts of the method of RE spell out these ideas differently and include additional elements. So far, the most elaborated general account is Elgin’s (1996); Resnik (1985; 1996; 2004) has presented the most thorough discussion of the application to logic. Three points are crucial for present purposes.

Firstly, in the case of logic, an equilibrium is sought between judgements (or more generally, “commitments”) about logical properties of (sets of) sentences (e.g. validity, logical truth or consistency) in some given language and a logical system (“a logic”) that includes: a logical formalism, which is a formal language with a semantic or proof-theoretic definition of validity and further logical notions; an informal interpretation of the formalism, which relates, e.g., “ \Rightarrow ” with “follows from”; and a theory of formalization, which regulates the relation of ordinary language arguments and sentences to expressions of the formalism. Without the last two elements, there is no way of deciding whether the judgements follow from the logical system.

Secondly, all accounts of the method of RE emphasize that the elements of a logical system (“systematic elements” for short) contrast with judgements which express extra-systematic commitments. However, there are in fact two contrasts involved. At every stage in a process of developing a RE (abbreviated “RE-stage of a RE-process”), there is a contrast

between the systematic elements at that stage and our judgements at that stage. A second contrast is between the resulting account and the judgements the RE-process started out with. To fix the distinction terminologically, judgements will be characterized as “antecedent” in the context of the second contrast; in the context of the first contrast, I will use “current judgement” or simply “judgement”.

Thirdly, as Elgin made clear, justification by RE involves several criteria. Judgements, logical system and background theories must be in equilibrium. This requires at least that judgements, logical system and background theories are consistent, and that the judgements follow from the logical system. Moreover, the resulting logical system must do justice to relevant epistemic desiderata (such as being formal, simple and fruitful); and the resulting account (i.e. the ordered pair ⟨judgements, logical system⟩) must respect antecedent judgements adequately. To simplify, I will often leave implicit that a RE includes background theories and that being in RE is relative to antecedent commitments and to desiderata.

2. Justification of Rival Logics

We are now in a position to analyse the debate between Resnik (1997:160–2; cf. 1996:502–5) and Shapiro (2000:349–51) about the pluralistic nature of RE. Since they primarily target other issues (cognitivism and realism), I arrange their arguments in a different dialectical order.

The method of RE has been claimed to be pluralistic in the following sense: it is possible that rival logics – for example classical, intuitionistic and paraconsistent logics – are simultaneously justified according to the method of RE. Even if two epistemic subjects apply the method of RE to the same antecedent judgements, they may end up with rival logics, each in equilibrium with the respective judgements and hence justified. This may happen because in the process of mutual adjustments different epistemic subjects need not deal with the various conflicts in the same order and they can weigh judgements, systematic elements and desiderata differently.

- (P1) Given a set of antecedent judgements A , it is possible that two RE-processes lead to rival logics L_1 and L_2 and to sets of judgements J_1 and J_2 , such that (relative to A): L_1 and J_1 are in RE, and L_2 and J_2 are in RE.

Two points need a comment. First, I limit the discussion to rival logics that are developed from the same set of judgements. Second, I will not try to define “rival”. Examples of rival logics are classical, intuitionistic and paraconsistent logics. They are non-equivalent, in contrast to, for example, mere notational variants, different axiomatizations and systems with truth-tables vs. systems with semantic tableaux. Also, more and less comprehensive logical systems (such as zero- vs. first-order logic, or extensional vs. modal logic) and systems designed for application to different languages or discourses do not count as rival logics.

A challenge to (P1) points out that a proponent of, say, classical logic will find that intuitionistic and paraconsistent logics are not in RE because they are incomplete and inconsistent. As long as an epistemic subject is committed to a particular logic, she will find that at least one of two rival accounts is not in RE and hence that (P1) is false.

Against this charge, one can argue that the notion of RE has logical components and therefore the criteria for being in RE are not independent of the account they are applied to. As Resnik points out, RE requires that a logical system be consistent by its own lights and the judgements follow from the logical system in the sense of “follow” defined in the logic under

consideration. Hence we cannot argue against rival logics that they are not in RE according to our standards. The question is rather whether they are in RE according to their own standards.

For an analysis of this argument, we need to distinguish three ways of using expressions with a logical meaning, such as “follows from” and “is consistent”:

- (1) In current and antecedent judgements, “follows from”, for example, is used extra-systematically as a relation between sentences.
- (2) In a logical formalism, there is typically a symbol such as “ \Rightarrow ”, which expresses a relation between formulas. It is read “follows from” because it is – according to the informal interpretation of the formalism – intended to be a systematic counter-part to the extra-systematically used “follows from”.

The extra-systematic use of “follows from” and the systematic use of the corresponding symbol typically change during a RE-process as a result of revisions affecting the judgements or the logical system; we cannot assume that use (1) and (2) agree as long as RE has not been reached.

- (3) In applying the method of RE, logical expressions are used extra-systematically with reference to judgements and logical systems (not as in (1) and (2) as parts of judgements or expressions of a logical formalism). For example, “is consistent” may be used to express a property of the logical system or of a set of judgements; “follows from” may be used to express a relation between the logical system and a judgement.

Resnik’s argues that we must use at every RE-stage the logical notions developed up to that point. In determining whether a set of judgements and a logical system are in RE, principles “contained in one’s own evolving logical theory” determine whether the required coherence has been achieved (Resnik 1997:160). Thus, Resnik’s remark that an account needs to be coherent by its own lights amounts to the claim that type (3)-uses of “is consistent” and “follows from” must agree with their corresponding type (2)-uses. Consequently, these type (3)-uses will change together with the respective type (2)-uses in the course of a RE-process.

Resnik’s position leads to two difficulties. First, the relation of agreement between the systematic use (2) and the extra-systematic uses (1) and (3) is not at all straightforward. We cannot use “follows from” and “ \Rightarrow ” in exactly the same way because the two expressions do not belong to the same language; “ \Rightarrow ” is meaningless when flanked by expressions that are not formulas in the language of the formalism in question.

Secondly, Resnik claims that type-(3) use of, say, “is consistent” should agree with use (2) of a corresponding systematic expression. I suggest we rather insist that the extra-systematic uses (3) and (1) agree. Unless a RE is reached, the two proposals may have different consequences. The reason for the suggested move can be found in the reason why we should accept an “own lights” principle in the first place: one cannot appeal to considerations of consistency or valid inference in arguments about the justification of logical systems, yet deny that one is committed to those very notions of consistency and validity. When we develop a logical system, we simultaneously make our logic explicit and adapt it according to our epistemic desiderata; we reconstruct the logic we already have and during this process we use at every stage the logical commitments we have at this stage. I therefore suggest:

- (OL) At every RE-stage, the logical notions used in criteria for being in RE must agree with the logical notions used extra-systematically in the “current” account.

If the notion of being in RE varies with the account it is applied to, the thesis about pluralism must be rewritten:

(P2) Given a set of antecedent judgements A , it is possible that two RE-processes lead to rival logics L_1 and L_2 and to sets of judgements J_1 and J_2 , such that (relative to A): L_1 and J_1 are in RE₁ (but not in RE₂), and L_2 and J_2 are in RE₂ (but not in RE₁).

(P2) evades the objection to (P1). If an epistemic subject S_1 argues against a proponent S_2 of a rival logic that this logic is not in RE by S_1 's standards, this is beside the point. S_2 's logic must be in RE by standards according with S_2 's account.

3. Reasonable Disagreement

(P2) opens up the possibility of reasonable disagreement:

(RD) Given two rival logics as described in (P2), then two epistemic subjects S_1 and S_2 who adopt the accounts $\langle J_1, L_1 \rangle$ and $\langle J_2, L_2 \rangle$ respectively are in reasonable disagreement because both accounts are in RE.

Against (RD), Resnik and Shapiro argue that the expression “in RE” is problematic since it is not tied to a specific account. This, so they argue, is incompatible with the immanence of logical notions, which can be used only in the context of a specific account, in contrast to transcendent notions, which can be used in the context of various (or even all) accounts. The notion *reflective equilibrium*, in turn, is immanent to an account because it is partly defined by logical notions such as *is consistent* and *follows from*. For Resnik, this is reason to be sceptical about the possibility of reasonable disagreement. (RD) and other claims invoking transcendent logical notions are in danger of making no sense. Shapiro turns the argument against Resnik by pointing out that transcendent logical notions are needed if we want to acknowledge for the intuitively plausible possibility of reasonable disagreement. Moreover, he argues, without transcendent logical notions, speaking of *the* method of RE is meaningless.

If we accept these arguments, (RD) has to be given up and we are back with (P2). But (P2) is not a claim of reasonable disagreement because it merely asserts that an account may have some property and lack another, whereas it is the other way around for its rival.

To thwart this line of argument, one could attack the distinction between immanent and transcendent notions, dispute the need for transcendent notions, or argue in favour of transcendent logical notions. For present purposes, I shall adopt the last strategy. My basic idea is that distinguishing two contrasts between judgements and systematic elements (sect. 1) allows us to defend the possibility of reasonable disagreement while acknowledging what is convincing about Resnik's and Shapiro's arguments. To begin with, we distinguish, within the extra-systematic use, between antecedent and current logical notions. Current notions result from a RE-process and are immanent to the current account. But some antecedent notions are transcendent, namely the pre-systematic notions, which are not the product of some previous development of a logical system. They may be just used informally as part of ordinary language, but their use may also be carefully regulated or explicitly defined (as, for example, in the discussion of validity in Beall/Restall 2006:ch. 2). In contrast to current extra-systematic notions, they are “open”; that is, they cannot be classified as, say, classical or intuitionistic. In the course of developing a logic, they will be replaced by more precise extra-systematic notions.

Transcendent notions are, firstly, the basis for giving an account of *the* method of RE (including the “own lights”-principle). Framed in pre-systematic terms, such an account is not tied to a particular logic. Precise but immanent notions of *being in RE* (and *being consistent*, *following from* etc.) become available if we develop a logic, and they will be subject to the arguments of Resnik and Shapiro. Secondly, an account of the method of RE is also a basis

for defending the possibility of reasonable disagreement. The arguments about immanence can be avoided if we interpret “both accounts are in RE” in (RD) as follows: each account falls under a specific notion of being in RE which meets (OL). The method of RE settles what counts as a specific RE-notion by specifying how such notions are developed starting from pre-systematic logical notions. Once we have developed an account in RE, there are two ways of discussing the justification of rival logics. In terms of pre-systematic notions, there can be reasonable disagreement because rival logics can be justified as the result of applying the method of RE to the same antecedent judgements. On the background of the commitments an epistemic subject has in the context of a particular account of logic, rival logics are unjustified, because they are not in RE in terms of these commitments.

In sum, we can defend the claim that the method of RE permits reasonable disagreement about rival logics if we rely on a pre-systematic common ground of logical notions, even though in terms of a particular account of logic in RE, we can argue that rival logics are unjustified.

To put things into perspective, I would like to mention some caveats. Firstly, the arguments discussed are specific to the application of the method of RE to logic and do not directly bear on its application in other contexts, such as moral philosophy, where pluralism and reasonable disagreement do not raise the issues discussed here. Secondly, the possibility of reasonable disagreement raises a range of further issues such as tolerance, resoluteness and pluralism in the sense of Beall and Restall, which cannot be dealt with here. Thirdly, defending pre-systematic logical notions as transcendent does not amount to claiming that the pre-systematic background is immune to criticism. On the contrary, the method of RE calls for critically reworking pre-systematically used logic.

References

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