

# ISSA Proceedings 2010 - Reasonable Non-Agreement In Critical Discussions



## *1. Introduction*

In current scholarly literature both in and around the field of argumentation theory, a debate has arisen over the topic of disagreements. In particular, scholars are devoting attention to the issue of whether it is possible for two parties engaged in a fully reasonable discussion to end their discussion without reaching an agreement on the acceptability of the point at issue. In the literature, such an outcome of an argumentative discussion is typically referred to by means of expressions such as e.g. “reasonable disagreement,” (Feldman, 2006; Kelly, 2007) or “legitimate dissensus” (Kock, 2008). Opinions are divided on the issue of whether such an outcome of an argumentative discussion is possible.

In this paper, I refer to such an outcome of an argumentative discussion as “reasonable non-agreement.” [i] Whether reasonable non-agreement is possible of course crucially depends on the underlying normative question of what in fact counts as reasonable discussion behaviour. With regard to this question, theorists differ substantially in their views, and it is this disagreement that gives rise to different answers to the question of whether reasonable non-agreement is possible.

In this essay I will focus on the pragma-dialectical approach to argumentation theory and the pragma-dialectical conception of reasonableness. As opposed to other - less mature - theories of argumentation, the pragma-dialectical theory is equipped with an explicitly developed perspective of reasonableness. In pragma-dialectics, reasonableness is fleshed out through systematically formulated standards known as “rules for a critical discussion.” From the pragma-dialectical perspective, argumentative moves are regarded as reasonable only if they do not breach any of the rules for a critical discussion. But what is the effect of these rules on the possibility of reasonable non-agreement? Or put more specifically: Do the rules for a critical discussion permit or prevent reasonable non-agreement? That is the general issue of this essay, which can be phrased somewhat more

carefully in the following way:

Q: Is it possible for a protagonist and an antagonist conducting a discussion in full accordance with the pragma-dialectical rules for a critical discussion to end their discussion without reaching agreement on the acceptability of the standpoint at issue? In other words, is pragma-dialectical reasonable non-agreement possible?

The structure of this essay is broadly the following. In Section 2, I provide a very brief introduction to some presently relevant concepts of pragma-dialectics. Section 3 motivates the research question further by showing that the possibility of reasonable non-agreement depends directly on the underlying perspective of reasonableness adopted by the analyst. Particularly, I show how reasonable non-agreement is *possible* from a so-called “anthropological perspective” of reasonableness, and how reasonable non-agreement is *impossible* from a “geometrical perspective” of reasonableness. This sub-conclusion is then used to pose the question of whether reasonable non-agreement is possible from a “critical perspective” of reasonableness – the perspective of reasonableness adopted by pragma-dialectics. Then, in Section 4, I provide a brief survey of selected passages from the pragma-dialectical literature. These passages give rise to the hypothesis that reasonable non-agreement should indeed be possible from a pragma-dialectical perspective of reasonableness. In Section 5, I loosely test this hypothesis by critically examining a recent pragma-dialectical analysis of the concluding stage of an argumentative discussion. In Section 6, I conclude that the example – at least according to my reading – does not achieve what it is meant to achieve, namely provide an example of a pragma-dialectically reasonable non-agreement. Thus, despite the clues in the pragma-dialectical literature pointing to the possibility of pragma-dialectical reasonable non-agreement, it remains to be shown exactly how a reasonable non-agreement can occur within the limits of reasonableness circumscribed by the rules for critical discussions.

## *2. A Very Brief Introduction to Pragma-Dialectics*

Due to space limitations, a full introduction to pragma-dialectics is outside the scope of this paper. It will, however, be useful to start out by considering a few basic concepts of the theory that are relevant for agenda of the present paper.

As mentioned, the pragma-dialectical conception of reasonableness is based on the rules for a critical discussion. These rules constitute the basic framework of the ideal model of a critical discussion. By viewing argumentative discourse from the perspective of the ideal model, it becomes possible to analyse and evaluate

argumentation starting from explicit standards (namely those embodied in the rules) rather using muffled intuitions. When viewed from the perspective of the ideal model, argumentation is always an attempt at resolving a difference of opinion between a protagonist affirming the acceptability of a standpoint and an antagonist doubting the acceptability of that standpoint. (Note: that argumentation is always viewed as an attempt at resolving a difference of opinion does not imply the empirical claim that real-life arguing is always and only about resolving a difference of opinion). A resolution of a difference of opinion entails either (1) that the doubt pertaining to the standpoint at issue is overcome in a reasonable way, i.e. in accordance with the rules for critical discussion, or (2) that the standpoint at issue is retracted because the protagonist realises that it cannot stand up to the criticisms of the antagonist.

The resolution process, i.e. the discussion, will ideally pass through four stages: the confrontation stage, the opening stage, the argumentation stage and the concluding stage. The confrontation stage is where the difference of opinion becomes manifest. The opening stage is where the procedural and material starting points of the discussants are agreed. The argumentation stage contains the actual argumentation proper in the form of a sustained attempt at overcoming the antagonist's criticisms of the acceptability of the (sub-)standpoint(s). The concluding stage is where the result of the discussion is pronounced. **[ii]**

Together, the rules for a critical discussion cover all four stages mentioned above. The rules make it possible to conduct a reasonable argumentative discussion by ruling out certain obstacles to a resolution. One of the key principles of a critical discussion relevant for the present purpose of this paper is the observation that making contradictory statements is not allowed, for if it were then "talking about disputes loses its point" (van Eemeren & Grootendorst, 1992, p. 17). As van Eemeren and Grootendorst note (2004, p. 58, fn. 38): "Dialectical approaches to argumentation place a lot of emphasis on the need for consistency. In accordance with Popper's critical rationalism, the scrutiny of statements is generally equivalent to the tracing of contradictions, because if two contradictory statements are maintained, at least one of them has to be retracted." So, we note (and this is important for the later argument) that being committed to a statement and its contradiction is impermissible according to the conception of reasonableness found in the pragma-dialectical ideal model and therefore unreasonable.

With this brief overview of some of the presently relevant pragma-dialectical concepts, let me move on to a discussion about perspectives of reasonableness. Particularly, I would like to consider how different perspectives of reasonableness make it either possible or impossible for two parties to finish a reasonable discussion without agreement on the standpoint at issue.

### *3. Perspectives on Reasonableness*

At the basis of any normative view of argumentation is a concern with the question of what counts as acceptable argumentation. The answer to this question again depends crucially on the underlying philosophical perspective on reasonableness adopted by those passing judgment. Toulmin (1976, ch. 2-4) famously defined three broad perspectives on the notion of reasonableness.

First, there is the *geometrical perspective* on reasonableness. When viewed from this perspective, argumentation is only acceptable if it lives up to very strict standards. Particularly, in order to be acceptable, the argumentation needs to start from true premises and proceed with absolute certainty from these premises through to an undisputable conclusion. Such a view of reasonableness is for instance embodied in Descartes' philosophy and leads, if consistently applied, to scepticism due to the so-called Münchhausen Trilemma (see Albert, 1985, pp. 16-21 and van Eemeren & Grootendorst, 2004, p. 131).**[iii]**

Secondly, and in contrast, there is the *anthropological perspective* on reasonableness. According to this perspective, the acceptability of argumentation simply depends on whether or not the audience judging the argumentation happens to find the argumentation persuasive. This dependence on changeable, tacit and informal evaluative standards of different audiences therefore in an important sense leads to a relativistic view on reasonableness.

Thirdly, as a kind of middle ground, there is the *critical perspective* on reasonableness, in which argumentation is regarded as acceptable if it coheres with certain rules for the critical testing of positions, given that these rules are (or at least aspire to be) simultaneously problem valid as well as conventionally valid (van Eemeren & Grootendorst, 2004, p. 16-17).**[iv]**

The geometrical and anthropological views of reasonableness have some interesting corollaries pertaining to the possibility of ending a reasonable discussion without reaching agreement on the point at issue. To see this, consider

the following thought experiment: If we imagine a discussion carried out in full accordance with the strict standard of reasonableness embodied the geometrical perspective, is it then possible to think of a way of ending a reasonable discussion with no agreement on the acceptability of the issue at the centre of the discussion? **[v]** The answer is no. If two parties cannot agree on the acceptability of the point at issue in a discussion governed by a geometrical conception of reasonableness, then this must be because at least one of the parties is somehow mistaken with respect to the application of the formal system by use of which the point at issue is being tested. For an analogy of this view, think of a context of arithmetic: If two parties suddenly find themselves in disagreement with respect to whether  $234 \times 12 = 2808$  and they cannot agree on whether or not a calculation of the indubitable givens on the left sign of the equality sign lead to the result proposed on the right hand side of the equality sign, then this must necessarily be because at least one of the parties is somehow applying the rules of arithmetic wrongly. If there is disagreement, at least one person must be in error. From the perspective of geometrical reasonableness, then, the initial doubt with respect to the acceptability of some point at issue must necessarily end in agreement after the relevant compelling procedures have been applied to test the acceptability of the point at issue. If not, then an unreasonable move must have been committed along the way.

From the anthropological view, things look rather different. To see this, consider another thought experiment. This time imagine a discussion carried out in full accordance with standards of the anthropological view of reasonableness. Is such a discussion capable of ending with no agreement on the disputed issue, if all the (potentially very relativistic) requirements of the anthropological view are followed? The answer this time is positive. This is because the anthropological view comprises not of one strict standard, but rather several audience-dependent standards all of which are reasonable from within their own relative perspective. If two parties discuss an issue and this results in no agreement on the acceptability of the view at issue, then this is not necessarily because an unreasonable move has been performed by one of the parties along the way. Rather, the failure to reach agreement might plausibly be due to the different evaluative standards held by the two parties in the discussion. After all, it is very possible that each person in the dialogue views the argumentation adduced as being persuasive to different degrees. And there is nothing wrong with this from the anthropological perspective. So ending a reasonable discussion with no

agreement on the point at issue is definitely possible from this perspective.

But what about the *critical perspective*? The theory of pragma-dialectics embodies a conception of critical reasonableness in the form of rules for critical discussion. An interesting question therefore is whether it is possible to finish a discussion carried out in accordance with these rules without reaching agreement on the point at issue. The answer is not immediately clear. After all, the critical perspective - and thus pragma-dialectics - incorporates elements from both the geometrical perspective and the anthropological perspective (van Eemeren & Grootendorst, 2004, p. 16). Since ending a reasonable discussion without reaching agreement on the point at issue is impossible from the geometrical perspective, but possible from the anthropological perspective, it takes further investigation to assess whether the critical perspective allows for ending a reasonable discussion with no agreement on the standpoint at issue.

#### *4. Pragma-Dialectical Indications of Reasonable Non-Agreement*

Such further research might of course be carried out in a number of ways. Krabbe (2008) provides an interesting example of one such way. By scrutinizing the rules for a critical discussion, he reaches - in a "top-down" fashion - the conclusion that reasonable non-agreements are in no way possible in a pragma-dialectical critical discussion; if the two parties reach the concluding stage, they are forced to either agree that one and only one party "wins", or they break the rules. In this essay I adopt a different, more "bottom-up" oriented, strategy than Krabbe. I concur with Krabbe that the rules seem at first glance to rule out the possibility of reasonable non-agreement, but I remain open to the possibility that the rules can somehow be interpreted in such a way that they do in fact (in a way yet to be discovered) permit reasonable non-agreements. I examine an example provided in a recent pragma-dialectical publication that is seemingly supposed to exemplify a reasonable non-agreement. The aim is to see whether the example indeed can be reconstructed in such a way that it fulfils the two conditions of a reasonable disagreement: (1) the concluding stage is completed without agreement on the standpoint at issue, and (2) no rules are broken. This quite charitable method of investigating the possibility of reasonable non-agreement in critical discussions is driven by some quotes in the pragma-dialectical literature that seem to me to indicate that the conception of reasonableness in the pragma-dialectics should in principle permit reasonable non-agreements.

I begin my exposé of such passages with the earliest manifestation of the pragma-

dialectical theory (van Eemeren & Grootendorst, 1984). In this work, van Eemeren and Grootendorst describe the four stages of the ideal model embodying the rules for a critical discussion. In their discussion of the concluding stage, they note the following (1984, p. 86; original emphasis):

A discussion designed to resolve a dispute will have to be concluded with an answer to the question of whether the dispute has been *resolved (stage 4)*. Naturally, not every discussion will automatically lead to the resolving of the dispute, and it sometimes happens that when the discussion is over the protagonist still takes the same attitude and the antagonist still has his doubts, without either one of them being open to an accusation of irrationality.

An important thing to note here is the use of the word 'irrationality.' For our purposes, this is practically synonymous with 'unreasonableness,' since van Eemeren and Grootendorst assume that the discussants have the sole aim of resolving the difference of opinion according to the rules for a critical discussion. If this is indeed the case, then performing unreasonable moves (i.e. moves that are impermissible from the perspective of the ideal model) can be said to amount to a kind of irrational behaviour, since it goes against the goal of each discussant. In this light, it should be clear that pragma-dialectics in the quote is leaning heavily toward a commitment to the existence of pragma-dialectically reasonable non-agreement. However, on the basis of the above quote we should not quite yet be prepared to conclude that pragma-dialectics is indeed committed to the existence of reasonable non-agreement from within its own perspective of reasonableness. One point of potential concern is the use of the phrase "without either one of them being open to an accusation [...]" Here, a dual interpretation of the expression "being open" is possible. Either it means that (1) from the perspective of the ideal model of a critical discussion, there is no basis for accusing any of the parties of performing any unreasonable discussion moves. Or it means that (2) it sometimes happens in real-life discussions that one (or more) of the parties in the discussion refuses to give up their position despite facing accusations of irrationality which are justified from the perspective of pragma-dialectics. **[vi]**

So, on the second reading, the pragma-dialectical quote from above could be referring merely to a real-life situation in which the parties are really behaving unreasonably, although they refuse to admit that this is the case. Granted, this interpretation seems a bit far-fetched - especially given that van Eemeren and

Grootendorst use the terms 'protagonist' and 'antagonist.' The use of these technical terms implies that we are talking not about real-life situations, but rather about the ideal model of a critical discussion. Still, it remains that it is possible to interpret the quote in a way that does not commit pragma-dialectics to the existence of reasonable non-agreement. Instead of concluding anything on the basis of this quote, let me therefore move on to look for more indicators as to which of the two above interpretations is the more likely.

A very interesting passage on the sufficiency of the pragma-dialectical rules for a critical discussion for resolving disputes is expressed in van Eemeren and Grootendorst (2004, p. 134). In the passage we learn that:

The rules of procedure that apply to the different stages of a critical discussion are problem-valid because each of them makes a specific contribution to solving certain problems that are inherent in the various stages of the process of resolving a difference of opinion. Of course, the rules cannot offer any guarantee that discussants who abide by these rules will always be able to resolve their differences of opinion. They will not automatically constitute a sufficient condition for the resolution of differences of opinion, but they are at any rate necessary for achieving this purpose.

This quote seems supply further evidence to the reading that pragma-dialectics is committed to the existence of reasonable non-agreements. After all, since it is clearly expressed in the quote that the rules governing the stages of the ideal model are not alone sufficient for achieving the purpose of resolution, it seems to be a corollary that it is somehow possible for two discussants to be completely in line with all the rules for a critical discussion and still reach no agreement on the standpoint at issue.

The last passage to be highlighted is from van Eemeren, Grootendorst, Jackson, and Jacobs (1993, p. 26). In this work we find what is probably the most unequivocal evidence of the supposed existence of pragma-dialectically reasonable non-agreements. The passage contains the following assertion:

An ideal system for resolution of disputes must be capable of [...] ending with [...] a mutual recognition that no agreement is (currently) attainable.

And on the next page (my emphasis):

The concluding stage fixes the outcome of the discussion: either a resolution or a decision that no resolution can be reached.



Now there can be no doubt: If the ideal model for a critical discussion is considered to be an “ideal system,” (and this certainly would seem to be the case) then it follows that two discussants acting in full accordance with the rules for a critical discussion must be capable of ending with no agreement on the standpoint at issue.

##### *5. An Example of a Pragma-Dialectical Concluding Stage Non-Agreement*

The previous section showed a collection of passages from the pragma-dialectical literature, which give rise to the hypothesis that it is possible for two parties following all the rules for a critical discussion to end their discussion without reaching agreement on the standpoint at issue. Especially the last quote seemed to firmly commit pragma-dialectics to the existence of pragma-dialectically reasonable non-agreements. But how might such a discussion outcome look? That is the question I deal with in this section. To do so, I examine an example of a supposedly reasonable non-agreement from a recent publication in pragma-dialectics about indicators of argumentative discourse, namely van Eemeren, Houtlosser and Snoeck Henkemans (2007, p. 223-226).

The example goes as follows. Two friends are having an argumentative discussion about whether or not to go on holiday. One party adopts the standpoint that they should go on holiday, and the other party adopts the contradictory standpoint that they should not. This means from the perspective of the ideal model that the confrontation stage has given rise to a so-called mixed dispute in which both parties are committed to the acceptability of their respective (and mutually contradictory) standpoints. To defend her standpoint, one party adduces the argument that “it is a psychological necessity for both of them to get away from it all in whatever way.” The other party adduces the argumentation that “there is no money for a holiday of any kind.” (p. 226). So far, so good. But consider the following issue: According to van Eemeren, Houtlosser and Snoeck Henkemans, in this discussion both of these arguments are taken to be “conclusive” by both discussants (p. 226). But how can this be? Normally, if an argument is conclusive, this obliges the antagonist to give up his doubt with respect to the standpoint at issue and commit himself (through an assertive speech act) to this standpoint (van Eemeren and Grootendorst, 2004, p. 154 and p. 195). But if that happened here, we would be in a strange situation indeed. Namely one in which both parties (1) have given up their original doubt with respect to their opponent’s standpoint and (2) adopted the standpoint of their opponent. So, the party who before maintained

that the two should go on holiday would now be committed to the standpoint that they should not, and the party who before maintained that the two should not go on holiday would now be committed to the standpoint that they should go! This kind of “double resolution” with a switching of the standpoints and commitments does not seem to be the right way of analysing cases of reasonable non-agreement. The explanation of the holiday example provided by the authors is not of much help:

[I]n a mixed dispute it may occur that both parties are entitled to maintain their standpoint at the end of the discussion. While classical logic does not allow two opposite statements to be true (or untrue) at the same time, viewed dialectically, it is quite possible for two opposite standpoints to be tenable (or untenable) on the basis of the discussion that has been conducted. This becomes visible exactly because the discussion is analytically broken down into two discussions resulting from a non-mixed dispute.

This quote seems puzzling. It is clear that according to the pragma-dialectical theory, any real-life mixed dispute needs to be analytically broken down into two non-mixed disputes before a systematic evaluation is possible. However, performing this analytical operation does still not explain how two contradictory standpoints end up being tenable on the basis of one and the same empirical discussion, even given that the actual empirical discussion was mixed. After all, we may assume that the pragma-dialectical emphasis on consistency we encountered earlier extends beyond the narrow theoretical confines of the analytical realm into the real-life behaviour of real arguers. If this very reasonable assumption (that any given real-life arguer is not permitted to commit himself to two contradictory propositions in one and the same real-life discussion) holds, then it is outright unreasonable for two contradictory standpoints to become simultaneously tenable on the basis of the same empirical mixed discussion, since this would imply that both discussants were committed to contradictory standpoints in their real-life discussion. And, again, as mentioned earlier: if we allow for real-life discussants in mixed discussions to commit themselves to contradictory propositions, then we end up with grim prospects of real-life resolution of differences of opinion. After all, we learn that no discussion may “contain any propositions that are inconsistent with other propositions. Otherwise it would always be possible to successfully defend any arbitrary standpoint against an attacker, which inevitably renders the resolution of a difference of opinion impossible.” (van Eemeren & Grootendorst, 2004, p. 145). So, even

though the example briefly analysed in this section is supposed to show a case in which both parties are entitled to maintain their standpoints at the end of the discussion, I do not see how this is possible without disregarding one or more of the standards of reasonableness implicit in the pragma-dialectical model.

## *6. Conclusion*

The issue of this essay was whether it is possible for two discussants behaving fully in accordance with the pragma-dialectical rules for a critical discussion to complete their discussion without reaching agreement on the standpoint at issue; in other words, whether pragma-dialectically reasonable non-agreements are possible. Taking an alternative approach to that of Krabbe (2008), I investigated the issue by attempting to reconstruct an example of a supposedly reasonable non-agreement in such a way that it constitutes a dialectical path to the completion of the concluding stage without any breach of the pragma-dialectical rules. The reconstruction showed that the example could not be reconstructed so as to be an instance of a pragma-dialectically reasonable non-agreement, since it violated requirements of consistency. The “bottom-up” approach chosen in this paper does not enable me to conclude categorically that pragma-dialectically reasonable non-agreements do not exist. It does, however, enable me to conclude that it still remains to be seen whether and, if so, how it would be possible for two discussants to follow all the rules for a critical discussion and complete this discussion with no agreement on the standpoint at issue.

## NOTES

**[i]** I prefer this stylistically somewhat suboptimal term, since it avoids a certain implication of the term “disagreement”, namely that it only pertains to what is called “mixed disputes” in pragma-dialectics.

**[ii]** This superficial overview of the basics of the pragma-dialectical theory is based on van Eemeren and Grootendorst (2004, pp. 42-68).

**[iii]** Descartes famously captures the geometrical perspective on reasonableness, when he states in the introduction to his “Discourse on Method” (1637/2008, p. 51): “... I deemed everything that was merely probable to be well-nigh false.”

**[iv]** Van Eemeren and Grootendorst (1992, p. 6, fn. 8) point out, again following Toulmin, that the geometrical view seems to be prominent in logical approaches, the anthropological perspective seems to be prominent in rhetorical approaches and the critical approach seems to be prominent in dialectical perspectives. While there is undoubtedly some empirical support for this categorisation, I prefer not

to put too much emphasis on this. I believe, like van Eemeren and Grootendorst, that e.g. logical approaches can espouse a critical perspective of reasonableness, just like I believe it is possible for rhetorical approaches to adopt a critical perspective.

**[v]** Here we assume, along with the proponents of the geometrical view, that it is indeed possible to proceed from premises known to be true beyond doubt. This is of course a highly controversial epistemological position, which both Popper (1971, 1972, 1974) and Albert (1985) have pointed out relentlessly.

**[vi]** This reading is, however, complicated by the fact that van Eemeren and Grootendorst use the expression “when the discussion is over,” which – as far as the ideal model is concerned – implies that all four stages have been completed. If all four stages have been completed, there is no real point in launching an attack on the adversary and accusing him of being irrational. Analytically, the accusation of irrationality would have to be regarded as part of the discussion itself, wherefore it does not make sense to talk about the accusation as happening after the discussion. However, another reading of the phrase “when the discussion is over” could be “after the argumentation stage,” which in a way could be said to contain the “discussion proper.”

## REFERENCES

- Albert, H. (1985). *Treatise On Critical Reason*. Princeton, New Jersey: Princeton University Press.
- Descartes, R. (2008). *Discourse On the Method of Rightly Conducting the Reason, and Seeking Truth in the Sciences*. Edinburgh: Sutherland and Knox.
- Eemeren, F. H. van, & Grootendorst, R. (1984). *Speech Acts in Argumentative Discussions: A theoretical Model for the Analysis of Discussions Directed Towards Solving Conflicts of Opinion*. Dordrecht: Foris Publications.
- Eemeren, F. H. van, & Grootendorst, R. (1992). *Argumentation, Communication, and Fallacies: A Pragma-Dialectical Perspective*. New Jersey: L. Erlbaum.
- Eemeren, F. H. van, Grootendorst, R., Jackson, S., & Jacobs, S. (1993). *Reconstructing Argumentative Discourse*. Alabama: University of Alabama Press.
- Eemeren, F. H. van, & Grootendorst, R. (2004). *A Systematic Theory of Argumentation: The Pragma-Dialectical Approach*. New York: Cambridge University Press.
- Eemeren, F. H. van, Houtlosser, P., & Snoeck Henkemans, A. F. (2007). *Argumentative Indicators in Discourse: A Pragma-Dialectical Study*. Springer Verlag.

- Feldman, R. (2006). Epistemological puzzles about disagreement. In S. Hetherington (Ed.), *Epistemology Futures*. (pp. 216-36). Oxford: Oxford University Press.
- Kelly, T. (2005). The epistemic significance of disagreement. In J. Hawthorne, & T. S. Gendler (Eds.), *Oxford Studies in Epistemology*. (pp. 167-96). New York: Oxford University Press.
- Kock, C. (2008). Norms of legitimate dissensus. *Informal Logic*, 27(2), 179-196.
- Krabbe, E. (2008). Predicaments of the concluding stage. In C. Dégremont, L. Keiff, & H. Rückert (Eds.), *Dialogues, Logics and Other Strange Things: Essays in Honour of Shahid Rahman*. College Publications.
- Popper, K. R. (1971). *The Open Society and Its Enemies* (5th ed.). Princeton, New Jersey: Princeton University Press.
- Popper, K. R. (1972). *Objective Knowledge: An Evolutionary Approach*. Oxford, UK: Clarendon Press.
- Popper, K. R. (1974). *Conjectures and Refutations: The Growth of Scientific Knowledge*. Routledge & Kegan Paul.
- Toulmin, S. E. (1976). *Knowing and Acting: An Invitation to Philosophy*. MacMillan Publishing Company.